

DEPARTMENT
OF
MILITIA AND DEFENCE
FOR THE
DOMINION OF CANADA
REPORT
FOR THE YEAR ENDED DECEMBER
1900

PRINTED BY ORDER OF PARLIAMENT



OTTAWA
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EXCELLENT MAJESTY
1901

To His Excellency the Right Honourable Sir Gilbert John Elliot, Earl of Minto and Viscount Melgund of Melgund, County of Forfar, in the Peerage of the United Kingdom, Baron Minto of Minto, County of Roxburgh, in the Peerage of Great Britain, Baronet of Nova Scotia, Knight Grand Cross of Our Most Distinguished Order of Saint Michael and Saint George, &c., &c., Governor General of Canada.

MAY IT PLEASE YOUR EXCELLENCY—

I have the honour to forward to Your Excellency the accompanying Report of the Department of Militia and Defence of the Dominion of Canada for the year ended December 31, 1900, which is respectfully submitted.

I have the honour to be,

My Lord,

Your Excellency's most obedient servant,

F. W. BORDEN,

Minister of Militia and Defence.

DEPARTMENT OF MILITIA AND DEFENCE,

OTTAWA, February 1, 1901.

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PART I.

REPORT

OF THE

DEPUTY MINISTER

DEPARTMENT OF MILITIA AND DEFENCE,

OTTAWA, February 1, 1901.

The Honourable F. W. BORDEN,

Minister of Militia and Defence.

SIR,—I have the honour to submit to you the undermentioned reports relating to the work carried out by the Department of Militia and Defence during the fiscal year ended on June 30, 1900.

1. The Report of the General Officer Commanding the Militia with appendices concerning the Active Militia and the Permanent Force; the report of the Officer Commanding the Royal Military College.

2. The report of the Chief Superintendent of Stores giving the customary details relating to the Store Branch.

3. The report of the Chief Engineer of the Department in relation to the work done under his supervision in the different Military Districts.

4. The report of the Superintendent of the Government Cartridge Factory.

The following is the Financial Statement for the fiscal year ended June 30, 1900.

FINANCIAL Statement for the Year ending June 30, 1900.

VOTES FOR MILITIA SERVICES, 1899-1900.		EXPENDED.
		\$ cts.
By Statute—		
Pay of General Officer, Adjutant General and Q. M. General		9,446 40
By Vote—		
Pay of Staff, Permanent Corps and Active Militia, including allowances....		333,225 72
Yukon Contingent.....		173,266 21
Annual Drill of the Militia.....		424,990 64
Salaries and wages of civil employees		70,000 00
Military properties, works and buildings.....		176,874 74
Warlike and other stores.....		58,086 72
Clothing and necessities.....		185,077 97
Provisions, supplies and remounts.....		117,933 58
Transport and freight.....		39,863 09
Grants in aid of Artillery and Rifle Associations and Bands and Military Institutes...		36,941 76
Grant for Rockliffe Rifle Range		1,500 00
Miscellaneous and unforeseen contingencies.....		19,981 70
Royal Military College of Canada		69,230 50
Monuments—Battlefields of Canada.....		250 00
Government Cartridge Factory.....		102,952 22
Drill ground and site for Armoury, St. Thomas, Ont.....		6,000 00
General service medals.....		3,988 12
Defences, Esquimalt, B.C.—Pay and allowances of a detachment of Royal Marine Artillery or Royal Engineers.....		12,989 13
Capital Account—Arms, Ammunition and Defences, including Esquimalt, B.C.....		161,498 39
Rifle Ranges.....		71,208 37
Halifax Provisional Garrison.....		118,265 14
Claims for Compensation—		
F. X. Mathieu, for legal costs.....		199 30
Octave Ouellette, injury.....		750 00
Widow of late Captain Stuart.....		1,000 00
E. W. Armstrong.....		500 00
Mrs. Kehoe		125 00
Guard for Welland Canal.....		1,006 00
Special Service—South Africa.....		1,427,502 35
Total		3,615,206 65
<i>Pensions.</i>		
By Vote—		
Pensions—Militia, Rebellion, 1885.....		18,570 98
" " Fenian Raids, &c.....		2,339 00
By Statute—		
Pensions—Militia, Upper Canada, War of 1812.....		840 00
		21,749 98

REVENUE.

	\$ cts.	\$ cts.
Casual.....		2,120 48
Ammunition, Stores and Clothing	14,363 18	
Miscellaneous.....	6,106 48	
Rents.....	5,821 31	
		26,290 97
Royal Military College.....		21,464 19
Total Revenue		49,875 64

J. W. BORDEN,
Accountant.

I have the honour to be, sir,
Your obedient servant,
L. F. PINAULT, Col.,
Deputy Minister of Militia and Defence.

APPENDIX No. 1

TO THE

REPORT OF THE DEPUTY MINISTER

OF

MILITIA AND DEFENCE.

REPORT OF THE CHIEF SUPERINTENDENT OF STORES.

STORE BRANCH, OTTAWA, January, 1901.

SIR,—At such stations as I was able to visit during the year, I found the duties being satisfactorily performed, and I have much pleasure in reporting favourably as to the general efficiency of the officers and employees of the Store staff.

STORE BUILDINGS.

It is strongly recommended that, as an urgent necessity, provision be made in the Estimates for the erection of new buildings at Kingston and Toronto. The stores already at these stations are very valuable, and a large quantity, in consequence of their importance as points of supply for large military districts, should be kept there in reserve; but owing to inadequacy of space and the present condition of the buildings (old wooden ones), it is impossible to either increase the supply or properly care for those already there.

In consequence of the impossibility of reaching the stores at St. Helen's Island from Montreal at certain seasons of the year, it will be necessary to provide accommodation in Montreal for the storage of a quantity of such articles as may be likely to be required for issue in case of emergency.

The new store building in course of erection at Ottawa is expected to be ready for occupation in the early summer. It cannot be available too soon, as the present accommodation is far from satisfactory owing to the scattered location of the stores and consequent want of general supervision.

SMALL ARM AMMUNITION.

The defective cartridges received from England are now undergoing alteration at the Cartridge factory, Quebec, and being distributed from there to the several centres. The altered ammunition is favourably mentioned.

In order to increase the quantity in charge to necessary proportions, the Cartridge factory is also turning out a supply of new ammunition which will, as ready, be distributed to stations where it is required, if space is available for storage.

64 VICTORIA, A. 1901

Free ammunition was issued during the year to the following organizations :—

Dominion Rifle Association.
 Ontario “ “
 New Brunswick Rifle Association.
 Manitoba “ “
 British Columbia “ “
 Prince Edward Island Rifle Association.
 Military Rifle League.

A statement accounting for the issue of this ammunition should have been furnished by the rifle associations concerned, or a certificate signed by the President and Secretary, to the effect that the number of cartridges received had been expended at the annual competition for which they were issued.

CAMP EQUIPMENT.

The supply of marquees and circular tents now being received will enable the wants of the troops in this respect during the annual training to be more fully met. These, however, owing to many of the circular tents on charge being old, would still be inadequate should it be found necessary to find accommodation for the whole force. The use of this equipment, unless provision is made annually for a much larger renewal, should be restricted solely to the use of the Active Militia.

There is no doubt but that the Boys' Brigades in connection with Churches and Public schools will eventually prove a source of supply to the *personnel* of the militia, but it cannot be expected, unless Parliament makes increased provision to cover a much greater expenditure on account of wear and tear, that the money now voted for militia purposes only should furnish camp equipment, etc., for other organizations.

HARNESS AND SADDLERY.

Issues to complete the equipment of the Mounted Rifles and Artillery proceeding on service to South Africa, exhausted the supply of harness and saddlery in Store charge.

There is no doubt but that on the return of the troops to Canada, if they are still to be retained as effective units, the most, if not the whole of this portion of their equipment will require to be renewed as it cannot, in consequence of the severe strain to which it has been subjected, fail to have become for the most part unserviceable.

SMALL ARMS.

In consequence of issues made to the troops which proceeded to South Africa, to meet renewals through fair wear and to supply the new regiments of Mounted Rifles added to the establishment, it will be necessary to import a supply of Lee-Enfield rifles in order that sufficient may be on hand to cover possible demands.

Issues continue to be made to regiments on the recommendation of the General Officer Commanding as suitable Armoury accommodation becomes available.

The time of the small arm armourers is fully occupied in necessary work in connection with rifles in store charge, and in carrying out repairs to those in possession of the troops.

Accommodation is required for an Armourer at London. The one stationed at Toronto has as much work in his own district as he can satisfactorily perform. As the rifles become more generally used, this work will rapidly increase.

The rifles now in possession of the troops should be carefully examined. It is proposed to have this work carried out during the coming year by the Armourers in the several districts, and those found defective withdrawn for repairs.

A proper armoury with racks and fittings is required at Toronto. In the event of a new store building being erected, this should be provided.

SESSIONAL PAPER No. 35

The question of a suitable Arm for issue to Cadet Corps and Boys' Brigades, as also the extent to which they are to be used for firing purposes or otherwise, is one which requires consideration and the formulation of rules or instructions in connection therewith.

The increased demand for issues of Arms to Rifle Clubs and Associations, will have to be considered. The members of these organizations take part in the Dominion and Provincial associations and Rifle-League competitions and not only expect free issue of rifles but also a free issue of ammunition. It should be borne in mind that these clubs are, to a very great extent, purely civilian and outside of the militia. The department should not, therefore, be expected to provide for them out of the vote for militia purposes. A special vote should be asked for to meet their demands and regulations formulated governing their existence, so that in the event of their services being required, they might be available to the country. Purely civilian clubs or associations provided with rifles and ammunition, must prove detrimental to recruiting for militia units.

MORRIS AIMING TUBES AND AMMUNITION.

The present supply of these articles will not admit of their being brought into general use by the force. The necessity for their use during the winter months and in localities where rifle ranges are not available, is an admitted fact. Their use necessitates the provision of mantlets, which are the main expense. It is suggested that 100 mantlets and at least 200 Aiming tubes with 1,000,000 rounds of ammunition be ordered for the present to commence with, this supply might afterwards be increased.

CLOTHING AND NECESSARIES.

The experience of the year accentuated the necessity for a much larger supply of clothing and necessities being on hand to meet emergencies. In the past the quantity has been too small to meet even the requirements of the militia ordered out for annual training. There is considerable variation in the sizes required; the proportion for one year will not meet the demands for a second year and this alone necessitates a considerable number being available for selection.

MILITARY PROPERTIES.

I have not found it possible during the year to visit the military properties, but the officers in local charge have reported satisfactorily as to their condition.

I have again to bring to your notice the very great assistance which I have received in the performance of my duties, from the officers of the Branch at headquarters and from the different Superintendents of Stores as well. They are zealous and painstaking.

D. A. MACDONALD, Colonel,
Chief Supt. of Military Stores, &c.

64 VICTORIA, A. 1901

(A.)—SMALL ARM Ammunition issued on repayment from July 1, 1899, to June 30, 1900.

Military Districts.	Rounds.	Amount.
		\$ cts,
Military District No. 1—London...	40,730	610 15
" 2—Toronto	170,046	2,558 95
" 3—Kingston	14,500	161 50
" 4—Ottawa	71,633	1,227 97
" 5 and 6—Montreal	24,200	200 00
" 7—Quebec	10,300	154 50
" 8—St. John, N.B.	23,350	349 33
" 9—Halifax, N.S.	1,520	22 80
" 10—Winnipeg	68,969	992 60
" 11—Victoria, B.C.	65,632	975 00
" 12—Charlottetown, P.E.I.	30,303	427 39
Total	521,183	7,689 19

	Rounds.
Lee-Enfield—Ball	436,793
Martini-Henry—Ball	34,500
Snider—Ball	45,030
" Blank	1,500
Morris Tube	3,160
Winchester—Ball	100
Revolver—Colt's	100
Total	521,183

D. A. MACDONALD, Colonel.
Chief Superintendent of Military Stores.

(B.)—SMALL ARM Ammunition issued for Practice from July 1, 1899, to June 30, 1900

Military Districts.	Rounds.	
	Ball.	Blank.
Military District No. 1—London.	100,380	2,780
" 2—Toronto	218,150	105,973
" 3—Kingston	186,940	33,350
" 4—Ottawa	78,265	4,090
" 5 and 6—Montreal	128,130	52,200
" 7—Quebec	133,700	39,700
" 8—St. John, N.B.	39,000	54,520
" 9—Halifax, N.S.	124,880	95,460
" 10—Winnipeg	9,880	7,002
" 11—Victoria, B.C.	25,600	6,350
" 12—Charlottetown, P.E.I.	12,900	800
Issued to Militia Corps for Rifle League Competitions.	209,000	
Total	1,266,825	402,225

D. A. MACDONALD, Colonel,
Chief Superintendent of Military Stores.

SESSIONAL PAPER No. 35

(C.)—RETURN of Gunpowder and Friction Tubes issued for Practice and Salutes from July 1, 1899, to June 30, 1900.

Military Districts.	Stations.	Corps.	Gun-powder.	Friction Tubes.
			Lbs.	No.
No. 1...	London.	Field Batteries of Artillery..	220	234
No. 2....	Toronto			
No. 3....	Kingston.....			
No. 4...	Ottawa.....	Field and Garrison Artillery, Royal Military College and Royal Canadian Artillery.....	2,895½	3,738
Nos. 5 & 6	Montreal.	Field Battery and Salutes.	399	185
No. 7....	Quebec.....	Field and Garrison Artillery and Salutes.....	130½	50
No. 8 ..	St. John, N.B. ...	" "	2,277½	900
No. 9....	Halifax, N.S.....	" "	1,239	635
No. 10....	Winnipeg.....	" "	66	100
No. 12....	Charlottetown, P.E.I.	Field Battery and Salutes.....	798	523
		" "	695	178
		Total	8,720½	6,543

D. A. MACDONALD, Colonel,
Chief Superintendent of Military Stores.

TENANTS and Rental from July 1, 1899, to June 30, 1900.

Number of Tenants.	Station.	Rents Received.	Remarks.
		\$ cts.	
3	{ Chatham... } M. D. No. 1.	82 10	
	{ London... }		
8	{ Toronto... } M. D. No. 2..	786 45	
	{ Niagara... }		
24	{ Kingston.. } M. D. Nos. 3 and 4	1,128 56	
	{ Ottawa.... }		
7	Montreal, M. D. Nos. 5 and 6.....	752 25	
45	Quebec, M. D. No. 7.....	2,760 84	
8	St. John, N. B. M. D. No. 8	227 40	
13	Halifax, M. D. No. 9	82 71	
2	Charlottetown, M. D. No. 12.....	1 00	
110	.....Total number of tenants.		
	.....Total amount of rents received.....	\$5,821 31	

D. A. MACDONALD, Colonel,
Chief Superintendent of Military Stores.

DEPOSIT RECEIPTS.

The following amounts have been received for the services mentioned and duly deposited to the credit of the Receiver General during the fiscal year 1899-1900 :—

Ammunition.	Military Stores and Clothing.	Miscellaneous.	Rents.	Total.
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
7,689 19	30,800 46	1,971 82	5,821 31	46,282 78

D. A. MACDONADD, Colonel,
Chief Superintendent of Military Stores.

The table herewith shows the details of clothing issued on requisition during the year :—

ISSUES.

Tunics, Cloth.	Tunics, Serge.	Trous- ers, Cloth, Pairs.	Trousers, Serge, Pairs.	Forage Caps.	Great Coats.	Panta- loons, Pairs.	Halifax. Bearer Company.
Cavalry. Artillery. Infantry. Rifles. Cavalry. Artillery. Infantry. Rifles. Cavalry. Artillery. Infantry. Artillery. Infantry. Rifles. Cavalry. Artillery. Infantry. Rifles. Field Service Cavalry. Artillery. Infantry and Rifles. Cavalry. Artillery. Serge Tunics. Long Trousers. Forage Caps	74 553 313 139 615 2,324 9,176 1,369 144 179 333 2,314 8,380 4,196 436 1,830 3,948 876 4,576 122 691 1,120 1,398 8,323 251 61 205						

D. A. MACDONALD, Colonel,
Chief Superintendent of Military Stores.

APPENDIX No. 2

TO THE

REPORT OF THE DEPUTY MINISTER

OF

MILITIA AND DEFENCE.

REPORT OF THE CHIEF ENGINEER.

OTTAWA, December 31st, 1900.

SIR,—I have the honour to submit herewith my annual report of the work carried out, under the supervision of the Engineer Branch, in the several military districts throughout the Dominion, from January 1, to December 31, 1900.

MILITARY DISTRICT No. 1.

LONDON, ONT.

Wolseley Barracks.—The buildings, &c., at Wolseley Barracks were repaired generally. New floors were put down, plumbing was put in order, and officers', non-commissioned officers' and men's quarters fitted up.

Drill Shed.—The gun shed of the 6th Field Battery was fitted up. Equipment racks were placed in the 26th Regimental Armoury. The roof, and building generally, were repaired.

Store Buildings.—The water supply service at these buildings was put in order, and small minor repairs made.

New Drill Hall.—A new drill hall is now being erected here by the Department of Public Works.

CHATHAM, ONT.

Drill Shed.—The roof covering of this building was renewed, and general repairs made.

WOODSTOCK, ONT.

Central Armoury.—Plans for the construction of a new building, to be used as a central armoury for the 22nd Regiment Infantry, are now under way.

ST. THOMAS, ONT.

New Drill Hall.—A new drill hall is now being erected here by the Department of Public Works.

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WINDSOR, ONT.

New Drill Hall.—A new drill hall is now being erected here by the Department of Public Works.

STRATFORD, ONT.

Drill Shed.—This building was repaired generally, and gas for lighting installed.

MILITARY DISTRICT No. 2.

TORONTO, ONT.

Stanley Barracks.—A new hot water heating system is now being installed at these barracks. New hardwood floors were put down in the barrack rooms, guard room and officers' quarters. Plumbing was put in order. A concrete floor was placed in the officers' mess kitchen; sidewalks were repaired; and officers', non-commissioned officers' and men's quarters were fitted up generally.

Drill Hall.—The Royal Grenadiers' quarters were put in thorough repair. Electric light was placed in the Morris Tube Rifle Gallery, and the range fitted up generally. Plumbing was generally overhauled. A new floor was laid in the harness room of the 9th Field Battery. Windows were glazed, and wire guards placed upon same.

Store Buildings.—The foreman, assistant foreman and storemen's quarters were generally repaired. The main store building was put in good repair, and a new browning shop was built to same. The sidewalks around these buildings were generally repaired.

Old Fort.—The sidewalks through this fort were partly renewed.

BRANTFORD, ONT.

Drill Hall.—A hot water heating system has been installed in this building, and double windows placed on the sergeants' and caretaker's quarters.

HAMILTON, ONT.

Rifle Range.—The new rifle range was completed and put in working order.

Drill Hall.—A new fence was erected in rear of this building.

NIAGARA, ONT.

Military Camp Grounds.—General repairs were made to all buildings on these grounds.

OWEN SOUND, ONT.

Drill Shed.—A drain was constructed around this building.

ST. CATHARINES, ONT.

Drill Shed.—Tables were fitted up in the 19th Regimental Store Room.

New Drill Hall.—A new drill hall is now being erected here by the Department of Public Works.

SIMCOE, ONT.

Drill Shed.—The well supplying the heating system was repaired, and a force pump fitted up.

DUNDAS, ONT.

Drill Hall.—A new building is now being erected here by the Department of Public Works, as an extension of this drill hall, for a Central Armoury for the 77th Regiment of Infantry.

SESSIONAL PAPER No. 35

BARRIE, ONT.

Armoury.—Arm racks are now being fitted up in the 35th Regimental Armoury, and the roof renewed.

YORK, ONT.

Drill Shed.—A Central Armoury for the 37th Regiment of Infantry is now being fitted up here.

MILTON, ONT.

Drill Shed.—A Central Armoury for the 20th Regiment of Infantry is now being fitted up here.

MILITARY DISTRICTS Nos. 3 & 4.

KINGSTON.

Tête de Pont Barracks.—General repairs were made to the buildings at these barracks, and the battery gun shed altered and enlarged.

Fort Henry.—A bridge at this fort was rebuilt, and small repairs made.

Store Buildings.—Fire extinguishers were supplied for these buildings.

Fort Frederick.—Small repairs were carried out here.

Drill Hall.—The new drill hall, being erected here by the Department of Public Works, is now completed with the exception of interior fittings.

ROYAL MILITARY COLLEGE.

Buildings and Grounds generally.—These buildings and grounds were kept in proper repair. The main and return pipes of the heating system in the main building were covered. A new heating apparatus, bath, water closets, &c., were placed in No. 3 officers' quarters. A new cooking range was placed in the cadets' mess kitchen.

Rifle Range.—The cadets' rifle range was put in proper working order.

Hospital.—Plans are now being prepared for a new hospital building.

Gymnasium.—Plans are also now being prepared for the construction of a new building to be used as a gymnasium and drill shed.

BELLEVILLE, ONT.

Drill Shed.—Electric light was installed in this building.

Rifle Range.—General repairs were made to this rifle range.

BROCKVILLE, ONT.

Rifle Range.—A survey of a proposed new rifle range was made here, and a plan of the same prepared, preparatory to the construction of the range.

Drill Shed.—A new drill hall is now under erection here by the Department of Public Works.

CARLETON PLACE, ONT.

Rifle Range.—The rifle range here was reconstructed.

LINDSAY, ONT.

Rifle Range.—The markers' mantlet on this range was reconstructed.

ODESSA, ONT.

Drill Shed.—This building was repaired generally.

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PETERBOROUGH, ONT.

Drill Shed.—This building was repaired generally, and the roof partly renewed.

PORT HOPE, ONT.

Rifle Range.—The rifle range here was reconstructed.

COBOURG, ONT.

Gun Shed and Armoury.—Plans are now being prepared for the construction of a building here, to be used as a gun shed for the Cobourg Garrison Artillery, and central armoury for the 40th Regiment of Infantry.

CORNWALL, ONT.

Central Armoury.—Plans are now being prepared for the construction of a new building, to be used as a central armoury for the 59th Regiment.

OTTAWA BRIGADE, OTTAWA.

Drill Hall.—General repairs were made to the several armouries and quarters in this building, and the roof repaired.

Cartier Square.—Fences, gates, plankwalks, &c., were put in order.

Ranger's Cottage, Cartier Square.—This building was generally repaired, and the exterior and interior painted and put in good order.

Store Building.—A new store building is now being erected here by the Department of Public Works, as a main central store for military clothing and equipment.

Rifle Range, Rockcliffe.—Several alterations and improvements were made on this range, and the Dominion Rifle Association building completed.

MILITARY DISTRICT, No. 5.

MONTREAL, P.Q.

Drill Hall.—Oliver equipment racks were provided for all armouries. The floors of all armouries on the east side of this building were renewed. General alterations were made to provide new quarters for the chief caretaker, and the 5th Royal Scots and Prince of Wales Fusiliers. All interior woodwork of the main hall was painted and general repairs were carried out.

Rifle Range.—A new rifle range providing forty targets is now being constructed at Point aux Trembles, on property acquired by the Government.

LAPRAIRIE, P.Q.

Rifle Range, Camp Grounds.—This rifle range was repaired and fitted up generally.

WATERLOO, P.Q.

Armoury.—A central armoury for the 79th Regiment of Infantry has been fitted up in the Town Hall here.

ST. HELENS ISLAND, P.Q.

Store Buildings.—General repairs were made to all buildings on this property.

LACHUTE, P.Q.

Armoury.—A central armoury for "B" Squadron, 6th Hussars, and the 11th Regiment of Infantry is now being fitted up here.

SESSIONAL PAPER No. 35

MILITARY DISTRICT, No. 6.

ST. JOHNS, P.Q.

The Barracks.—General repairs were carried out at these barracks, including the renewal of floors in barracks-room and guard-room, and general interior painting and papering in all buildings. The plumbing was put in good order. A road leading from the barracks to the city was macadamized and put in good condition. New hot water heating systems are now being installed in the hospital building and married men's quarters.

ISLE AUX NOIX, P.Q.

Fort Lennox.—General repairs were made to these buildings and walls, and the fort placed in a fair state of preservation.

A Military road near this fort was put in good order, and a bridge on same renewed.

MILITARY DISTRICT, No. 7.

QUEBEC.

Fortification Walls.—The walls and bastions along the river front of the Citadel have been almost entirely rebuilt.

Portions of Kings and Dalhousie Bastions, Citadel, were also rebuilt, but are not completed. The escarp wall of the ditch outside the Chain Gate Barracks was repaired. A large portion of the wall in rear of the cartridge factory, and that on Palace Hill, was rebuilt. The rampart walls were pointed, where not completed last year.

Dufferin Improvements.—A plank walk, twelve feet wide, was constructed from Dufferin Terrace to the Cove Fields, on the river front outside the Citadel walls.

Citadel.—General repairs were made to all buildings. A new sewage system was installed at Jebbs Redoubt, and the terrace and summer house at the Governor General's quarters were rebuilt.

R.C.R.I. Barracks.—These barracks, recently occupied by the Field Battery, were fitted up for infantry barracks. Officers', non-commissioned officers', and men's quarters were repaired.

The heating system in officers' quarters is now being thoroughly overhauled.

Drill Hall.—General repairs were made to this building. A new block floor is now being laid in the main hall.

Riding School.—Small repairs were made here.

Married Men's Quarters.—These quarters were kept in proper repair.

Brigade Office Building.—A new hot water heating system, and electric light, were installed, and general repairs made in this building, including quarters occupied by the District Officer Commanding.

Store Building.—These buildings were kept in proper repair, including the part renewal of roofs of magazines, and small general repairs to all buildings.

Military Properties Generally.—The fences and gates around the Glacis, at the Citadel, were partly renewed and painted. The sidewalks and roads were repaired generally, and trees planted.

CARTRIDGE FACTORY.

Rolling Mill.—A new building, to be used as a Rolling Mill, is now under construction by the Department of Public Works.

A large building, at the corner of Palace Hill and Arsenal Street, formerly occupied as quarters, is now being altered and fitted up by this department, in connection with the installation of new machinery.

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Main Factory.—The heating system in this building was altered, made necessary by the erection of a new boiler house last year, and general alterations and improvements made.

Buildings, Generally.—All the buildings and quarters in connection with the Cartridge Factory were put in proper repair.

Laboratory Building.—A new power house was built for the Laboratory, and power transmitted to several additional buildings in connection therewith.

LEVIS, P.Q.

Forts.—Small general repairs were made at these forts. The woodwork of the drawbridge at No. 1 fort was renewed, and the exterior sheathing on the face of No. 3 fort was painted.

Engineer Park.—All buildings on these grounds were put in good order, and the drainage partly reconstructed.

Rifle Range.—The old range at the Engineer Park (600 yard range) was repaired generally, and an artificial stop butt constructed to add to its safety.

A survey and plan were made of a proposed 1,000 yard range at the Engineer Park, and the trees and brush are now being cleared preparatory to its construction.

MILITARY DISTRICT, No. 8.

FREDERICTON, N.B.

The Barracks.—The several barrack buildings were repaired generally, and a number of old unsightly sheds and fences were demolished. The exterior woodwork of men's barracks, hospital and guard house was painted. Officers', non commissioned officers', and men's quarters were placed in good repair. Concrete floors have been laid in the men's cook house, and wash room; and the men's bath room fitted up. New hot water heating systems are now being installed in the several officers' quarters, men's barracks, and hospital building. A new building is being erected for a coal and straw shed and carpenter shop, to replace one recently destroyed by fire. Several new fences in barrack grounds are being built.

Drill Hall.—A new floor is being laid in the main hall of this building. A central armoury was fitted up for the 71st Regiment of Infantry, and general repairs made.

The exterior of the whole building was painted, and various small repairs carried out.

Rifle Range.—A survey and plan of the site of a proposed rifle range at Nashwaakie, near this city, were made.

ST. JOHN, N.B.

Drill Hall.—Two chimneys on this building were rebuilt, the roof partly renewed, and general repairs made.

Store buildings and properties.—A Martello tower, damaged by storm, was restored, and all military buildings and properties put in good repair.

Rifle Range.—A new rifle range for six targets is now being constructed on the old rope walk site, acquired by the government.

NEWCASTLE, N.B.

Gun Shed.—A building which has been bought by the government, is now being altered and fitted up as a gun shed and harness room for the Newcastle Field Battery.

WOODSTOCK, N.B.

Gun Shed and Armoury.—Plans are now being prepared for a new building, to be used as an Artillery Gun Shed and Infantry Armoury.

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SUSSEX, N.B.

Central Armoury.—A new building is now being erected here by the Department of Public Works, to be used as a central armoury for the 8th Hussars and 74th Regiment of Infantry.

Camp Grounds.—A windmill was erected on these grounds, and pipes laid to the several infantry lines, for the water supply for these corps during camp.

MILITARY DISTRICT No. 9.

HALIFAX, N.S.

New Drill Hall.—Arc electric lights were fitted up in the drill grounds adjoining this building, for drill purposes.

Old Drill Hall.—This building is now being altered and fitted up as a store building.

Brigade Office.—This building has been fitted up as quarters for the Superintendent of Stores.

BEDFORD, N.S.

Rifle Range.—A new range is now being constructed here, for twenty-two targets.

BADDECK, C.B.

Central Armoury.—A new building is now being erected here by the Department of Public Works, to be used as a central armoury for the 94th Regiment of Infantry.

ALDERSHOT, N.S.

Camp Grounds.—The cavalry stables here were rebuilt. General repairs were made to the rifle range.

MILITARY DISTRICT No. 10.

WINNIPEG, MAN.

Cavalry Barracks.—Officers', non-commissioned officers' and men's quarters were repaired generally and put in proper condition.

Drill Hall.—New arm and equipment racks were fitted up in the 90th regimental armoury. Alterations were made in the gas lighting in district stores, and small repairs carried out.

MILITARY DISTRICT No. 11.

VICTORIA, B.C.

Drill Hall.—The main doors of this building were altered, and an ash pit constructed. Lockers were fitted up in the armouries of the 5th regiment, Canadian Artillery.

Marine Barracks.—Canteen and latrine buildings were erected for 'A' Company, 3rd Special Service Battalion, Royal Canadian Regiment.

Rifle Range.—A new rifle range is now under construction at Clover Point, for eight targets.

VANCOUVER, B.C.

Rifle Range.—The rifle range at Central Park was partly reconstructed, and general repairs made.

New Drill Hall.—The new drill hall now under erection by the Department of Public Works, is nearly completed, with the exception of interior fittings.

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ROSSLAND, NELSON, KASLO, KAMLOOPS AND REVELSTOKE, B.C.

Drill Sheds.—Plans for the construction of a company drill shed at each of the above mentioned places are now being made, preparatory to their construction.

Rifle Ranges.—New rifle ranges are now being constructed at each of the above mentioned places.

MILITARY DISTRICT No. 12.

CHARLOTTETOWN, P.E.I.

Drill Shed.—Alterations and additions are now being made to this building, for a Central armoury and store accommodation.

Accommodation was fitted up for the Charlottetown Company of Engineers in this drill shed.

LITTLE YORK, P.E.I.

Rifle Range.—General repairs were made at this range.

GENERAL.

Oliver Equipment Racks.—New iron racks of a standard pattern have been supplied and fitted in all armouries, for corps provided with this equipment.

Regimental Artificers.—Lumber, hard wood, paints, &c, has been supplied at each of the regimental depots for the use of Regimental Artificers

Morris Tube Mantlets.—An additional number of these mantlets, targets and screens have been provided at the several camps of instruction, and drill halls, for rifle practice.

Transports.—The different steamships, used as transports for the special service Contingents for South Africa, were fitted up under the supervision of the Engineer Branch.

The ss. *Sardinian*, of the Allan line was chartered to take the First Contingent in the middle of October, and was fitted up under the supervision of the Assistant Engineer, Militia and Defence, the Chief Engineer being in the Maritime Provinces on a tour of inspection. The above Transport sailed on October 30, 1900, from Quebec.

The other steamships chartered were the *Laurentian* and *Pomeranian*, of the Allan Line, and the *Montezuma*, of the Elder Dempster Line, which later was afterwards rejected on account of fever breaking out on board among the crew, and the *Milwaukee* of the same line substituted.

These boats were fitted as transports for the Mounted Rifles and Artillery with horses and guns, under the supervision of the Chief Engineer Militia and Defence, at Halifax, N.S. These transports sailed on January 21 and 27, and February 21 respectively.

The *Monterey* was also fitted up at Halifax, N. S., under the supervision of the Chief Engineer Militia and Defence, as a transport for the 'Strathcona Horse' which sailed on March 17.

The *Milwaukee* and *Monterey* were freight boats, and were practically bare between decks. All decks had to be floored, and all state rooms and other accommodation for officers, men and horses, had to be built. The steamships had also to be fitted with an electric light system and ventilators.

I have the honour to be, sir,
Your obedient servant,

PAUL WEATHERBE, Capt.,
Chief Engineer M, and D.

APPENDIX No. 3.

TO THE

REPORT OF THE DEPUTY MINISTER

OF

MILITIA AND DEFENCE

GOVERNMENT CARTRIDGE AND SHELL FACTORY, QUEBEC.

SUPERINTENDENT'S REPORT FOR FISCAL YEAR ENDING JUNE 30, 1900.

SIR,—I have the honour to report as follows upon the operations of this establishment for the fiscal year ended June 30, 1900.

CARTRIDGE FACTORY.

The production of this factory for the period stated has been as follows :

Cartridges, S. A. ball, .303", cordite, Mark	II,	16,500
" " " .303", " "	V,	575,200
" " blank, .303", " "	V,	500,500
" " .303", black powder " "	III,	500,500

At the meeting of the Dominion Rifle Association, held in 1899, numerous complaints were made concerning quality of cartridges supplied. Many of the statements which were published in the newspapers at the time, appear to have been made thoughtlessly, or by persons without such knowledge of the subject, as would enable them to give a valuable opinion. Absence of exact knowledge was in some conspicuous cases coupled with the absence of fair and careful consideration. It is submitted that a skilled marksman is not necessarily an expert in ballistics, and that the size of a man's score frequently influences his judgment, without reference to other important points. The firer's personal equation is invariably eliminated from the problem, and the irresponsible utterances which have been seen in print are truly characteristic. While it is not claimed that the ammunition was entirely blameless, it is submitted that it is by no means as inferior as has been represented. Experiments were instituted at the conclusion of the rifle meeting to investigate the causes of hangfires, and a provisional report was forwarded to the War Office, with a request that an opinion be given. The experiments carried out here consisted in firing cartridges under artificial climatic conditions resembling those existing at Ottawa during the meeting, and measuring the velocity of ignition and pressure in the bore in comparison with ammunition made at the Royal Laboratory, Woolwich. Eight hundred and forty rounds each of English and Canadian ammunition were placed in a water oven, kept at constant temperature by a thermo-regulator, and raised by successive increments of 10 degrees from 60° F to 110° F, 100 rounds being fired for velocity of ignition, and 5 rounds for pressure at each increment. The Canadian ammunition tested was taken at random in store from lot which had been complained of, and the English ammunition was dated 1897, that

manufactured previously having shown the same defect. I designed an electric contact breaker adapted to the Lee Enfield rifle, which was worked in connection with the Boulangé chronograph to measure the velocity of ignition. Pressures were measured by usual method in small arms pressure guage. The data obtained which are necessarily elaborate and complicated may be summarised as follows :—

Velocity of Ignition.	Mean Deviation.	Maximum Deviation.	Pressure.	
Sec.	Sec.	Sec.	Tons.	
0·002142	0·000173	0·000489	14·72	D. C. Ammunition, 1898.
0·002164	0·000156	0·000478	14·37	R. L. " 1897.
0·000022	0·000017	0·000011	0·35	Differences.

The chronograph employed measures correctly to the fourth decimal of a second, and it being desirable to know the degree of accuracy with which the arithmetical mean of the total results, represents the true velocity of ignition, the probable error of the mean was computed to be as follows :—

D. C. Ammunition, 0·00000489607 sec.

R. L. " 0·00000441053 "

As this error occurs only in the 6th decimal of a second, it was concluded that the final results are absolutely correct for the purposes of this investigation. The longest times of ignition observed for both kinds of ammunition, were compared with the known duration of a slight hangfire. After making all possible allowances for outstanding and unavoidable errors, it was calculated that in both cases the mean velocity of ignition was less than that of even a slight hangfire by over 260 per cent. The pressures observed were moderate and uniform throughout. The number of burst cases reported at Ottawa did not exceed a fraction of one per cent, which is not sufficient to justify complaints, as perfect immunity from this defect cannot be guaranteed. There were no complaints of stripped bullets at Ottawa, where Mark II bullet was used, but as the trouble had occurred elsewhere, inquiries were made, and the English press subsequently stated that many cases had occurred at the rifle meetings at Bisley and Edinburgh with Mark IV. (expanding) bullet. This bullet was consequently modified to Mark V., which has given satisfaction, and the entire stock of Mark IV. on hand in the factory was destroyed. It is regretted that some of this should have been issued before the defect was discovered, and what still remains should be expended for practice. To ascertain what bearing defects in rifles would have on the various points mentioned over 500 rifles in the hands of the troops, and 1,000 new rifles in store, were thoroughly gauged and inspected, leading to the recommendations stated below. In forwarding this report for consideration to the War Office, it was pointed out that the caps had been unaffected by high temperatures; that the velocity, nature and regularity of ignition provided had produced ballistics within the prescribed limits, and that certain variations in manufacture of rifles would produce hangfires. It was further represented that assuming the impossibility of entirely preventing burst cartridge cases, it admits of proof that the mechanism of the rifle must be capable of withstanding the extra strain imposed without being wrecked and injuring the marksman. The report concluded with the following recommendations :—

That a supply of strikers amounting to 25 per cent of rifles on charge be provided, for replacement of any defective ones, after examination by a qualified armourer; that an annual inspection of arms by an artificer from this establishment be sanctioned for all city corps, and such units of the rural militia to be selected hereafter, as prescribed

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by paragraph 338, part I, 'Equipment Regulations' for Her Majesty's Army; that a supply of double pull-throughs, prescribed in the Lists of Changes, be obtained and issued; and, that the early establishment of a Rolling Mill, for manufacture of brass and cupro-nickel strip, as urgently recommended in the past, be considered and authorized. A complete report on the points at issue was received from the War Office, advising a modification in the manufacture of percussion caps which has been adopted so far with perfect satisfaction. The recommendations concerning inspection of arms, and provision of spare strikers and pull-throughs are concurred in, and will, it is hoped, be adopted. After protracted correspondence and numerous enquiries an order has been placed in England for the Rolling Mill plant, and a building for accommodation of this machinery is to be erected in a convenient position, adjoining the power house. It has been decided to adopt the mark II. (solid) bullet for general service, Mark V, (expanding) being reserved for specific purposes. It may, however, be explained, as there appears to be a prejudice against the hollow-pointed bullet, that the stripping with mark IV, has entirely disappeared in mark V., and it is found that this ammunition gives a better figure of merit than the solid bullet. As the competitors at the Dominion Rifle Association meeting expressed a preference for Rifleite, a quantity of this powder has been purchased, and will be issued for the ensuing matches, together with cordite ammunition. It has thus been arranged to give competitors a choice of the following kinds of ammunition:—

Rifleite,	mark	II.
"	"	V.
Cordite,	"	V.
"	"	II. (R. L. ammunition re-capped.)

All the cartridges have been most carefully tested, and there is reason to believe that any kind will give entire satisfaction. The statement has again been made that fired cartridge cases are re-filled at the factory, and in this connection reference is invited to the annual reports of this department for 1897 and 1898, explaining why this cannot be done. This was one of the thoughtless and unjust criticisms referred to above, which have no foundation and cannot be substantiated. During the time that experiments were in progress, the filling and finishing of ammunition was suspended, and advantage taken to carry out extensive repairs to the Danger Buildings, which were greatly needed. The work to be performed took longer than had been expected, and was completed only a short time previous to our being ready to resume ordinary manufacture. The interval was occupied in manufacturing blank, of which there was only a small supply in store, and in finishing some Rifleite cartridges already on hand.

The manufacture of Rifleite ammunition necessitated some changes in the machines for loading granular powders. Power was transmitted from No. 2 building to replace a water motor which was worn out; the machine itself was altered from suggestions made by the Foreman Danger Buildings, rendering it possible to load with a variation of only 0.2 grain, plus or minus; this result is extremely gratifying. This machine was also employed to load some cartridges small arm, blank, black powder, Mark III., the manufacture of which has enabled us to use up a large stock of R.F.G.² in store. Black powder blank of this description has been adopted for use in the Royal Navy, and while it fouls the bore considerably, it possesses the advantage of producing a louder report than the cordite blank of service pattern. The recapping of defective .303" cordite ammunition purchased from the War Office in 1895 is proceeding satisfactorily; it consists in extracting and replacing the defective cap, after which the cartridges are bundled and labelled 'Re-Capped.' Special machines for un-capping and re-capping were procured in England and others made locally. It is gratifying to record that the War Department has taken into favourable consideration the experiments submitted by this office, and agreed to defray the cost of repairing all defective ammunition on hand, which will amount to some \$23,000.

It has been found difficult to identify complaints received about ammunition; our wrappers are not dated, and it is proposed to supply the omission by purchasing a press so that all wrappers and labels will be printed and duly dated as required.

An attachment designed by the Foreman Danger Buildings has been added to one of the existing machines for bulleting ammunition. This machine has a capacity of 25,000 per day, enabling one operative to do as much work as four with the hand presses formerly employed.

When the 2nd Battalion, Royal Canadian Regiment (first contingent) sailed for South Africa, orders were received to hand over the Maxim Gun on charge; the gun being in daily use for proof of ammunition, we were in a position to deliver it promptly, in good order and serviceable condition. It being absolutely necessary to have a gun for proof work, another has been issued to replace the above.

A large quantity of scrap on hand should be disposed of for the benefit of the factory.

The principle laid down on page IX. of your annual report, dated April 17, 1900, that the proceeds of sales on repayment should be paid to the credit of the department and not to the Receiver General is particularly applicable to this establishment, which is at present deprived of benefiting from sale of ammunition, scrap, &c. In all commercial establishments, scrap is credited against cost of manufacture, and this principle is observed in the Imperial Government Factories. The balance sheet of Her Majesty's Ordnance Factories contains credit items such as 'Sale of old Stores, Miscellaneous Receipts, Refunds, &c.,' contributing to diminish cost of manufacture, which under our system go to the Receiver General. It is moreover submitted that the entire amount paid by the Imperial Government to defray cost of re-capping ammunition, should be credited to this establishment.

The manufacture of friction tubes has been initiated, and it is expected that in a short time we shall be able to supply all requirements.

We have also begun manufacture of silk cloth gun cartridges, which will be supplied empty or filled, with cordite or black powder as may be required.

Experiments and investigations were made concerning the following subjects, and reports submitted:

Picric Powder, invented by Mr. Dickson, Winnipeg.

Velocity of ignition of .303" cordite caps.

Pyro-collodion.

Smokeless Powder.

Patent Steel Nosed Expanding Bullet, invented by W. H. Hill, Sydney, New South Wales.

Conversion of Maxim Guns from .45" to .303" calibre.

Indurated Fibre Rifle Shield, proposed by A. Brunel, C. E.

Colt Automatic Gun.

Employment of Mineral Jelly for lubrication of arms, and specification to govern supply of.

Incomplete combustion of silk cartridges with saluting charges, reported by Inspector of Artillery, Eastern Division.

The examination branch has been removed to the Danger Buildings, and the change has proved a success. A new engine and boiler room has been built adjoining the Danger Buildings: the engine has been thoroughly repaired, and a boiler formerly employed in the main factory has been installed. Two small buildings for drying fulminate of mercury and mixing detonating composition, suitably isolated by earth traverses have been erected. The drying is now effected by hot water heating which is safer and more satisfactory.

SHELL FACTORY.

The following is the output of this department:—

Shells B.L. sharpnel, 12 pr	632
" R.M.L. " 9 "	1,480
" R.M.L. common, 64 "	1 075
" R.B.L. segment, 6 "	500
Cups, R.B.L. guns, 6 "	1,000
Posts, picket, 2½ ft., wrought iron	100

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The manufacture of projectiles for R.B.L. guns on the lead coated system has been taken up and is progressing satisfactorily; as yet, only 6 Pr. segment shells, for the Royal Military College have been delivered, but we have in hand orders for 40 pr. sharpnel and common shells. It was deemed advisable to initiate this manufacture, as the practice of the garrison artillery is now largely carried out with 40 Pr. R.B.L. guns. The arrival of 5-in. B.L. howitzers has necessitated the manufacture of projectiles of this calibre, and an order was received to manufacture 5-in. cast iron common shell, filled with black powder, which are employed for practice purposes, in place of the forged steel lyddite shells.

This factory is now equipped to manufacture anything in the way of cast iron projectiles for all natures of ordnance in the Dominion. A complete outfit of tools and gauges has been provided, all of which are arranged and classified so as to be available at a moment's notice, involving a certain amount of expense, but quite indispensable for efficiency and quickness of production. The manufacture of wooden boxes for projectiles was begun during the year, and additional machinery purchased.

It has been the intention for some time past to introduce the manufacture of steel projectiles, which have entirely replaced cast iron for the use of modern artillery. After making extensive enquiries the following machinery was purchased for the finishing shop:—1 flat Turret Lathe, 1 Six Inch Cutting off and Centering Machine. One 18 inch Brass Finisher's Lathe. One 18 inch x 70 inch Shaping Machine.

All these machines embody latest improvements and have given entire satisfaction. We have been in communication with leading manufacturers for the supply of a hydraulic forging plant for the manufacture of forged steel shells, which will consist of a compound steam pumping engine, an accumulator, and presses, and it is hoped that we shall shortly be in possession of information to enable this order to be placed advantageously. It is proposed to begin with manufacture of 12 Pr. B. L. shells, but the plant is suitably designed for expansion and will be capable of producing 5 inch and 6 inch shells when required. This plant will be installed in the existing shell factory, and the machinery in the latter will be moved to a new building which it is proposed to erect for the purpose. Our present power plant being insufficient to meet additional work, a battery of boilers will be established in a convenient position at south end of iron foundry. The erection of a rolling mill in connection with the small arm ammunition plant, necessitates converting the existing iron foundry into a brass foundry. Plans and estimates for the erection of a new foundry have been submitted, as well as various propositions for the utilization of existing buildings the property of this department, all of which are still under consideration; the most convenient site is in St. John's Bastion, and it is strongly recommended that construction on this spot be authorized. Our present premises are altogether too small and overcrowded, and something must be done to provide additional room.

The proof of projectiles was carried out at the Island of Orleans as hitherto. In connection with this matter, 'Rules and Regulations for Artillery Ranges' framed on those of the Imperial Army, were submitted by this office, and were subsequently published in general orders. In spite of all precautions, great difficulty exists in providing for the safety of the inhabitants, who persist in handling un-exploded projectiles recovered on the range; the fatal consequences which unhappily resulted from this practice some years ago, leads to the suggestion that ample measures be taken for the protection of officers concerned.

A proof butt erected on the Cove Fields will be used for this work as much as possible, and will reduce danger, besides being more convenient.

ARTILLERY WORKSHOP.

The object of establishing a department of this nature may be explained as follows:

The repair of ordnance, carriages, war matériel, and equipment of all descriptions as well as the alteration of existing patterns in accordance with the Lists of Changes and local requirements. The examination and viewing of ordnance small arms and machine

guns. Manufacture of any articles which cannot conveniently be obtained by contract. Execution of repairs or new work required by the Store Department. The training of machinery gunners, carriage smiths, wheelers, farriers, collarmakers and saddlers, for the Permanent Force and Active Militia,

With the introduction of B.L. and Q.F. guns, as well as magazine rifles and machine guns, the question of repairs becomes more complicated, and their proper execution more difficult. The improved but greatly complicated mountings employed in the garrison artillery for the service of Q.F. and other guns require the care and attention of highly trained specialists.

A schedule of machinery required for this factory was submitted, and the necessary funds were voted by Parliament. Arrangements are being made to place our orders as speedily as possible. Plans and specifications for erection of a building to accommodate the above machinery was forwarded, but it was decided to utilize instead a portion of the New Rolling Mill, and a building at the corner of Palace Hill, which is to be altered for the purpose. This arrangement, while feasible, presents many disadvantages, in that the buildings are not suitable for the reception of heavy machinery, and the interior space is so limited that the handling of gun carriages and other large pieces of work will be exceedingly difficult.

It is proposed to renew the request made last year for the erection of a workshop, at a moderate cost.

The viewing and examination of ordnance to be performed under this department was begun, and the guns of the following field batteries were examined: 'A' and 'B' Field Batteries, R.C.A. 3rd and 5th Field Batteries, C.A.; the 7 in. R.B.L. guns in Fort Henry and Fort Frederick, Kingston, were also examined and repaired. It is intended to retain copies of all History Sheets pertaining to ordnance and mountings in this office, in order that lost copies may be replaced, and to enable viewing to be performed in a regular and systematic way.

A complete inspection of the guns, carriages, and equipment of the 1st Field Battery C.A. (Quebec) was made, and a report thereon forwarded, showing that the matériel of this battery is in very bad order, and urgently in need of repairs. It may be inferred from this that other units which have not been inspected, are equally deficient. The following is the work which will first occupy this department, and for which we have already received orders: Repair of guns and carriages of batteries returning from South Africa; alterations of existing equipment in accordance with Lists of Changes; conversion and manufacture of field artillery gun sleighs; manufacture of planks, scotches, skidding, rollers, mauls, tent poles, &c., for Store Department. Should it be decided to convert the existing 12 pr. 6 cwt. equipment to Q.F., we shall be in a position to undertake the work; specifications and estimates are being prepared, and a proposition will be duly submitted. The 9 Pr. R.M.L. equipment is very much out of date, and in England has been allotted to form part of the movable armament of fortresses; should it be decided to retain this equipment for field batteries, it may be of advantage to make certain alterations, to assimilate it to the 12 Pr.B.L. We are prepared to take up this work, and a report thereon will be forwarded for consideration. When 'E' Battery R.C.A. was mobilized for service in South Africa, an attempt was made to carry out some of the most urgent alterations required to the equipment. Some of these were of the greatest importance, and it is regretted that lack of time and facilities prevented us from being of greater assistance. A complete set of books and forms has been obtained from England, in order that our system may be made to conform as far as possible with that of the Imperial Ordnance Factories. It is hoped that during the coming year the workshop will be fully established, and it is felt that valuable assistance can be rendered by an establishment of this nature.

GENERAL REMARKS.

The repairs and alterations to buildings which have been performed are as follows:

Office Building.—One room repaired and fitted up for use as an office with fire proof vault. Minor repairs to windows and roof.

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Cartridge Factory.—Elevator, 2,000 lbs. capacity erected; rebuilding drains; repairs to walls; new coal shed; miscellaneous minor repairs.

Shell Factory.—Repairs to skylights and drains.

Laboratory Buildings.—New power house; transmission of power to filling room; new composition buildings; galvanized iron roof to Nos. 1 and 4 buildings; new coal shed; new lightning rods; extensive minor repairs.

Fulminate Buildings.—Painting and general repairs.

Officers' Quarters.—Miscellaneous minor repairs.

In addition to the above, the proof butt at the Cove Fields has been enlarged and a fence erected on top of rampart, McMahon St.

A damper regulator has been added to our boiler plant and saves about 10 per cent of fuel. The heating system of the cartridge factory has been entirely overhauled and arranged to make use of exhaust steam. It is impossible owing to badly laid pipe lines, to circulate exhaust steam to heat the shell factory and live steam is employed. It is proposed to modify our apparatus for use of low pressure steam, and it is expected that the entire establishment can thus be heated at greatly reduced cost.

The dynamo used for lighting the works is too small and a larger machine will have to be provided when new buildings are erected. The proposed opening of a roadway and selling of building lots on the Cove Fields tend to interfere with our operations and should be postponed as long as it is in the power of the department to do so. Our danger buildings should remain isolated, and traffic in the neighbourhood should be reduced to a minimum.

We have on our staff several old employees, who have rendered years of valuable service, but who are now unable to perform their duties in a satisfactory manner. It is suggested that the discharge of these men be authorized and that their claims to a gratuity or allowance, be considered.

Every effort has been made to carry out the progressive policy of the department, in building up an arsenal in keeping with the growing military requirements of the country; and it is felt that we are on the eve of completing successfully the task allotted. This success is due, largely to the efforts of the staff of this office, and to the solicitous attention given to our business by the officials concerned at headquarters.

I have the honour to be, sir,

Your obedient servant,

F. M. GAUDET, *Major,*

Superintendent Government Cartridge Factory.

To the Deputy of

The Honourable the Minister of Militia and Defence,
Ottawa.

PART II.

REPORT

OF THE

GENERAL OFFICER COMMANDING

The Honourable the Minister of Militia and Defence,
Ottawa.

SIR,—I have the honour to submit the following report upon the Militia Forces and Establishments under my command for the year ending December 31, 1900.

INSPECTIONS.

(1.) Having only assumed command of the Canadian Militia on July 29, I regret that it is impossible to make my report as full and comprehensive as I could desire, especially as regards the efficiency of the Canadian troops, except so far as I was able to carry out a personal inspection.

The difficulty in this matter arises from the circumstance that of recent years there have been so many changes of procedure in regard to the scope and nature of the Inspection Reports, that the District Officers Commanding are—not unnaturally—somewhat uncertain as to the proper form in which such reports should be rendered, and it thus becomes an impossibility to arrive at any conclusive opinion on the results of the annual training in the several districts, as evidenced by the degree of efficiency to which the units have attained. I have taken measures which I trust may remedy this defect and ensure that, in future, Inspection Reports shall all be rendered in the same form and supply an equal amount of data and information.

PERMANENT CORPS.

(2.) As early as possible after my arrival in the Dominion I deemed it my duty to make an inspection of the permanent troops. I need scarcely point out that all arms of these corps have been so depleted in officers, non-commissioned officers and men for service with the South African contingents that they were seen at a very great disadvantage when I made my inspections. It is therefore with very great pleasure that, taking into consideration the paucity of experienced officers and non-commissioned officers available for duty, and the abnormal number of recruits in the ranks, I am able to report that I consider these units in a very creditable state of efficiency, alike as regards their drill, discipline and interior economy.

The 3rd (Special Service) Battalion Royal Canadian Regiment does not, strictly speaking, form a part of the permanent corps, and I therefore think it is desirable to make a separate report upon it. In view of the important duties which have devolved upon this corps, occupying, as it does, the place of an Imperial regiment in a most important Imperial garrison, I made a point of subjecting it to a very searching inspection in drill, discipline, interior economy and administration, and it is only an act of justice to the officer commanding and his officers, non-commissioned officers and men, to place on record my general satisfaction with the state of this battalion. There were, as was

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to be expected, minor matters of detail in which there was room for improvement, and these were pointed out to the commanding officer, but at the date of my inspection the battalion had only been in existence some five months, and I was therefore much pleased to find the amount of efficiency that had been attained in so short a time, and I was also gratified to learn from the officer commanding Her Majesty's troops that the battalion had performed its duties in garrison in a most creditable manner.

RURAL CORPS.

(3.) During my tour of inspection in the Maritime Provinces I spent some days at the Camps of Instruction at Aldershot, N.S., and Sussex, N.B., and inspected the troops undergoing their annual training. The intelligence, zeal, and diligence shown by all ranks was everything that could be desired, and the conduct of the men, as well as the general arrangements, cleanliness, good order and sanitary condition of the camps gave me complete satisfaction, and were very creditable to the officers in command and the staff officers acting under their orders. In the limited period of nine working days, however, it is absolutely impracticable to do more than impart the rudiments of drill, for it must be borne in mind that at least 60 per cent of the troops assembled are raw recruits, entirely ignorant of discipline and soldier like habits, and consequently there is no time for giving even elementary instruction in "field training," which forms the most important part of a soldier's duty, while even musketry practice has to be hurried through under the most unfavourable conditions.

The result, so far as parade movements and ceremonial drill is concerned, was much better than I had expected could be learned in the limited time at disposal. This was especially the case with the Cavalry and Field Artillery, whose training is more difficult and duties much more onerous than those of the Infantry, and I am able to report that a most admirable spirit pervaded the rural corps that came under my observation, but I am constrained to add that, notwithstanding the most strenuous efforts on the part of officers, non-commissioned officers and men, *these troops can never be made even fairly fit to take the field with the limited period of annual training that they receive under existing arrangements.*

I attach as an appendix to this report a copy of certain recommendations which I had the honour to submit on the 4th December, 1900, and which, if favourably considered, would, I believe, aid in developing the splendid material of which the rural militia of Canada is composed.

CITY CORPS.

(4.) I have been unable to form any definite opinion on the efficiency of any of the city corps, as I have not enjoyed such opportunities of seeing them as would justify me in doing so. The few corps that could parade for my inspection did so either in their drill halls or on a church parade, which afforded me no means of judging of their value in a tactical sense. As a rule they were well turned out, their arms and equipment in serviceable condition, they performed 'parade movements' with accuracy, and executed the manual and firing exercises correctly and with very fair precision. The one city regiment that I was able to inspect both in its drill hall and at practical work, the 1st Garrison Artillery, acquitted itself most creditably in every way, and is, I consider, an excellent example of a good city corps.

It is very much to be desired that steps should be taken with a view to affording the urban regiments some practical experience in the way of field training, i.e., 'out-post duties,' 'scouting,' 'attack and defence of positions,' and the execution of 'hasty entrenchments,' but so long as their training is confined to the limited area of a drill hall with an occasional evening route march and a few church parades, it is obviously impossible for them to learn those most important duties of a soldier. I feel quite sure that all the city corps are animated by a most keen desire to render themselves thoroughly efficient in every respect, and I trust that it may be possible to introduce such measures as will give them greater facilities for 'field training' than at present they possess.

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ARTILLERY.

(5.) The most important event connected with the Artillery service during the past year was undoubtedly the organization of the Brigade Division for service in South Africa, consisting of 3 Field Batteries on a War establishment. The order for mobilization was issued on December 20th, (M.O. 265) and in the depth of winter (January), these units had to be raised, equipped, horsed, and despatched to the port of embarkation. It was not deemed desirable to send the existing Batteries of the Permanent Force and consequently 3 Special Service Batteries—C, D and E—were formed, made up by drafts from A & B Batteries, R.C.A., and volunteers from all the Batteries of Militia Field Artillery in the country. The call was splendidly responded to and the applications from officers and men were so far in excess of the numbers required that many were necessarily disappointed.

C. Battery was organized by Major J. G. Hudon, Royal Canadian Artillery, at Kingston, and E. Battery, by Major G. H. Ogilvie, R.C.A. at Quebec, under the supervision of Lt.-Colonel F. G. Stone, Royal Artillery. D Battery, was organized at Ottawa by Colonel W. H. Cotton, Assistant Adjutant General for Artillery at Headquarters, and Major W. G. Hurdman, of the 2nd Field Battery, Canadian Artillery, was appointed to command it.

The Staff of the Brigade Division consisted of:—

Lt.-Colonel, C. W. Drury, A.D.C., R. C. Artillery, in command.

Adjutant—Captain H. C. Thacker, R.C.A.

Medical Officer—Surg.-Major A. N. Worthington, A.M.S.

Veterinary Officer—Veterinary Major J. Massie, R.C.A.

Attached for Duty—Captain H. J. Mackie, 42nd Regiment.

The work of organization was a duty of great responsibility, especially as the officers entrusted with it were unacquainted with the needs of a Battery on a War footing, and all the non-commissioned officers and men were unacquainted with their officers or with each other. That the confidence reposed in them was justified, is proved by the excellent reputation that these units gained for themselves on service in the Field, and by the commendation bestowed upon them by The Field Marshal Commanding in Chief in South Africa.

In order to equip these Batteries with the 12-pr. B.L. gun it was necessary to take the entire equipment of A and B Batteries, R.C.A. and that of the 2nd Field Battery, C.A. and in addition, the 1st and 3rd Field Batteries had to be indented upon to complete the equipment.

The 6th Field Battery also was required to hand over its guns and equipment to the remnant of A and B Batteries remaining at Kingston, for drill and instructional purposes, and therefore it will be seen that in order to place 3 Field Batteries on a War footing it was necessary to seriously cripple three others.

A AND B BATTERIES, R.C.A.

(6.) These two Batteries having been reduced to skeletons had to be partially recruited and the remnant of B Battery was sent to Kingston, and attached to A Battery, the whole under the command of Lt.-Colonel J. A. Fages, and several officers of the Militia Field Artillery were called in for duty, with excellent results. I personally inspected these units at Kingston, and taking into consideration the great difficulties against which they had to contend, the Commanding Officer deserves much credit for bringing such young soldiers and remounts to a very satisfactory state of efficiency and discipline.

GARRISON DIVISION, R.C.A.

(7.) The two companies comprising this Division, stationed in the Citadel at Quebec, have been also much depleted in all ranks by drafts to South Africa, though scarcely to the same extent as the Field Artillery. I personally inspected these companies under Lt.-Colonel Wilson, R.C.A., and found them efficient, well drilled, and

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everything in good order. Discipline had been well maintained, and the comforts of the men carefully studied. I regret that I cannot report the condition of the Fortress as being satisfactory. In many places it shows signs of serious dilapidation and portions of the works are becoming overgrown with weeds. I do not think that the present Garrison, even if up to its full establishment (173 rank and file), could possibly keep such extensive works in proper order and free from rank grass and weeds, in addition to its Artillery training and duties, and I strongly recommend the permanent employment of a few 'Barrack Labourers' who should be selected from discharged men of good character from the Permanent Force, and whose special duty should be to keep in proper order the works and approaches to the Fortress.

ARTILLERY PRACTICE.

(8.) I unfortunately arrived in Canada too late to be present at the Field Artillery practice-camp at Deseronto, and the only units that I was able to see perform their annual firing were the 3rd Field Battery at Montreal and 1st (Halifax) Regiment of Garrison Artillery. The latter corps having, through the kindness of the General Officer Commanding Her Majesty's Forces in Canada, enjoyed the advantage of instruction by an officer of the Royal Garrison Artillery, showed a very satisfactory proficiency, and the practice with 9-inch R.M.L. guns made at a moving target proved that this unit had taken every advantage of its opportunities.

The report of the Inspector General of Artillery, Lt.-Colonel Stone, R.A., on the proceedings at the Deseronto Camp, is evidence of the excellent result of bringing the Field Artillery together in Brigade Divisions, and combining their annual practice with advanced instruction in Artillery Tactics under a highly trained and qualified leader.

I propose to carry out a similar concentration at Deseronto this season, and it is much to be wished that the same facilities for the tactical grouping of Artillery units could be provided for the other provinces.

The progress in efficiency made this year by the Canadian Artillery under the supervision of Lieut.-Colonel F. G. Stone, R.A., appears to have been most marked. Judging from my own observations and from the admirable report attached as Appendix D, this officer was most assiduous in the performance of his duties, and the Dominion was very fortunate in having at its disposal when the Brigade Division for South Africa was being formed, the services of one of the most able, energetic and up-to-date artillerists in the British Service, and to whom the Canadian Artillery is much indebted.

ARTILLERY PRACTICE, GARRISON UNITS.

(9.) Gun practice for the following Artillery units was carried out at the Island of Orleans in the month of August :

Garrison Division—Royal Canadian Artillery.

6th Regiment Canadian Artillery.

Cobourg Garrison Company.

This practice, the details of which are included in Lt.-Col. Stone's very able report, does not appear to have been a success, for the only guns available were 64-pr. R.M.L. and 40-pr. R.B.L., the actual practice being confined to the latter. Both these types of guns are virtually obsolete, slow to work and use 'black powder.' As was to be expected, the practice from the 40-pr. R.B.L. by the Royal Canadian Artillery was as good as possible from that gun. I have already referred to the good work performed by the 1st Halifax Artillery Regiment under the command of Lt.-Colonel Oxley, who fired from 9-in. guns at York Redoubt, Halifax. Both divisions of this Regiment were trained under the supervision of Captain Phillips, Royal Garrison Artillery, whose report is attached (Appendix G), and who was indefatigable in carrying out the drills and practices. I hope that his valuable services, so readily given, will be suitably acknowledged.

The 4th Regiment performed its practice at Fort Dufferin, St. John, N.B., with 40-pr. R.B.L. guns. It was as satisfactory as could be expected.

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The 5th Regiment at Victoria, B.C. have not yet practised with the 6 in. B.L. guns at that station, owing it is said to late arrival of the necessary ammunition, but it will be carried out at as early a date as possible.

It is much to be regretted that the want of modern armament has prevented much improvement in the practice of the Artillery units.

The arrival of 5 in. Howitzers will render it possible to practice with them this year, if, as I have reason to believe, the Cartridge Factory at Quebec will be in a position to supply iron practice projectiles.

I purpose submitting a scheme for the mobilization of the Garrison Artillery units, and that drill and practice in 1901 shall be carried out in accordance therewith. By this means all ranks will become acquainted with the duties assigned to them in war, and even if changes therein should subsequently be required, as is very possible, the instruction to the officers cannot be overestimated.

PRACTICE BATTERY, QUEBEC.

(10.) The establishment of a practice battery for Garrison Artillery on the River St. Lawrence at or near Quebec is a matter of great importance. A suitable site has been surveyed and plans prepared, and it is much to be hoped that it may be possible to proceed with the construction at an early date.

ARTILLERY GUN SHEDS.

(11.) With the advent of the new Field Artillery equipment the provision of suitable gun sheds is a matter of much importance, and in view of the costly nature of the harness, saddlery stores, &c., I venture to hope that this subject may receive prompt and most careful consideration.

I would also beg to urge that if the Field Artillery equipment is to receive the care and attention required by such valuable stores, a permanent paid caretaker is a necessity.

MAGAZINES, ETC., WARLIKE STORES.

(12.) In his report for last year the Chief Superintendent of Military Stores calls attention to the urgent necessity of magazine accommodation being provided at Toronto and London, and stores at Toronto and Kingston. In this I entirely concur. The concentration of our warlike stores at one extremity of this vast Dominion is on every military consideration most pernicious. In time of peace it is inconvenient in the extreme, and in time of war it might very easily prove disastrous.

The advantages of decentralization are now so thoroughly recognized by all modern authorities on military administration, that I cannot too strongly urge that western Canada should, at the earliest possible opportunity be provided with store and magazine accommodation sufficient to meet the requirements of the troops.

Pending this I recommend that an adequate supply of ammunition be maintained at Kingston for all arms in those districts.

MUSKETRY.

(13.) The musketry training of the Militia has been hampered by lack of range accommodation. This defect, I am glad to report, is having careful attention and every effort is being made by the Department to provide for our needs in this respect as funds become available. A new and excellent range is in progress at St. John, N.B., and the Quartermaster General has this year inspected proposed sites at Sherbrooke, Que., Victoria, Fredericton, N.B., Kaslo and Nelson, B.C.

Practice with the miniature cartridge (Morris Tube) has been carried out with satisfactory results, and is a most useful adjunct in musketry instructions, especially for the training of recruits, and I have recommended the issue of 50 rounds of Morris Tube

ammunition to each recruit of the city corps with the necessary arms, at all stations where it may be practicable to establish miniature ranges for practice during the winter months.

Although I believe that every effort has been made that existing conditions permitted, to carry out the musketry instruction of infantry units, I consider that as a whole the musketry efficiency of our troops is very far below the standard required by the conditions of modern warfare, and I have had the honour to submit to you a proposal for the appointment of a qualified officer as Inspector General of Musketry, who would be charged with the supervision of the musketry training of the forces, and also a scheme for the establishment of a Royal Canadian School of Musketry on the model of the Imperial School at Hythe.

Such a school would in due course provide qualified instructors, commissioned and non-commissioned, for the whole of our troops, and would ensure the musketry training being carried out according to the most approved modern methods. I venture to hope my proposals may meet with the favourable consideration of the Canadian Government.

SOUTH AFRICAN CONTINGENTS.

(14.) The preparation and despatch of the 1st Contingent to South Africa has already been dealt with fully in the report of Major General E. T. H. Hutton, C.B., A.D.C., dated December 31, 1899.

During the first three months of this year the 2nd Contingent, consisting of two regiments of Mounted Rifles and three batteries of Field Artillery, was organized and despatched from Halifax on Jan. 21 and 27 and Feb. 21.

The assembling, clothing and equipping these troops—in all 1,233 men—and the purchase of horses, as well as their transport to the port of embarkation, and the provisioning and quartering of the units, entailed constant and heavy work upon the Quarter-Master General and his subordinates, in which he received every assistance from the staff of the Civil Branches of the Department.

The rapidity with which the 2nd Contingent was organized and despatched without, so far as I am aware, a hitch of any description, I think reflects great credit upon all the officials of the Department engaged in the duties of mobilization.

It is a matter for congratulation that the officers, N.C. officers and men of the 1st Contingent have been able to return to Canada before the close of the year, and enjoy a well earned and happy Christmas with their friends at home, and according to present information the 2nd Contingent should land in Canada on or about January 6, 1901.

The gallant services of all the Canadian troops employed in the field in South Africa is now a matter of history, and the Dominion from east to west has accorded her sons a reception worthy of their devotion to duty in the ranks of the Imperial Forces. Those officers, N.C. officers and men who had the privilege of visiting the Mother Country received the honour of a personal inspection by Her Gracious Majesty and H.R.H. the Prince of Wales, and the ovation they received in England is an evidence of the warm appreciation and regard entertained by all classes in the United Kingdom towards their fellow-subjects from the outposts of the Empire.

I cannot pass from this subject without bringing to notice the very excellent work performed by the chief railways in the country in transporting the large number of men and horses that were conveyed over their lines during the mobilization and despatch of the contingents to South Africa. The Quarter-Master General reports to me that he met with the greatest attention, patience and courtesy from all railway officials and agents in arranging all these movements, which were carried out with the utmost promptitude and regularity, often under stress of time and at very short notice. The way in which the railways handled the concentration at Halifax of nearly 3,000 men and 1,800 horses, both in large and small parties and from every part of the Dominion for nearly 4,000 miles, and during the severest weather, was a most important element in the successful despatch of the contingents and deserves every recognition.

I would also place on record the obligation under which the Department rests, to the staff of the Imperial garrison at Halifax, N.S., for assistance very cordially given

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to our officials. I can speak from personal knowledge as regards the disembarkation of the 1st Contingent, and I trust that a suitable expression of appreciation may be officially conveyed to the Officer Commanding Her Majesty's Forces in Canada.

A full report of the operations in which the Canadian troops were employed is being prepared and will, in due course, be submitted as a supplementary report.

CAMPING ARRANGEMENTS.

(15.) The arrangements for training Camps were made on the same lines as in 1899.

The Quarter-Master General visited all the camps during the period of instruction (with the exception of Aldershot, N.S.), and he was thus enabled to see by personal inspection the suitability of the localities for the number of troops encamped, the adequacy of the water supply, the requirements as to camp equipment, arrangements for cooking and messing and the rifle ranges in use by the troops.

He reports that everything was satisfactory, with the following exceptions, viz :—

London.—Rifle range has been closed as dangerous.

Kingston.—Range should be closed for the same reason.

Laprairie.—Ground rough, marshy and unsuitable. Proximity of village causes drunkenness and indiscipline.

Levis.—Ground rough, should be ploughed and sown.

It is recommended that the troops of Military District No. 4 should be trained at Ottawa, camped on or near the Rockcliffe range where musketry practice could be carried out, and that the troops of Nos. 5 and 6 Military Districts should be trained by brigades on the new Montreal rifle range, where a water supply should be provided.

CAMP EQUIPMENT.

(16.) The practice of each District Officer Commanding, demanding the equipment that he considers necessary, leads to want of uniformity in the camps and causes great labour in checking at headquarters. I recommend that a scale of camp equipment be adopted and published in General Orders for future use. I also recommend that the regulations be so amended as to allow the D.A.A.G (B.) of each camp with his clerk, assisted by a few men to lay out the camp, to be on the ground at least 2 days clear *before* the arrival of the troops, and for the same time at least after their departure so as to be able to deal satisfactorily with the issue and return of camp equipment. Confusion, loss of stores, and in some cases personal over work and pecuniary loss resulted from the arrangements in force last year. The necessary labour for forming the camps should be provided from the nearest depôts of the Permanent Force.

REGIMENTAL ARMOURIES.

(17.) Some progress has been made towards supplying Regimental Armouries, and those which should be provided next year have been scheduled by the Quarter-Master General for estimates. I would urge the great importance of providing armouries and gun sheds for the rural corps with a view to the issue of the Lee-Enfield rifle and the new Field Guns to all the militia. The fact that all our troops are not armed alike creates confusion in peace and would probably be disastrous in war.

DRILL HALLS.

(18.) The provision of Drill Halls at London, Peterborough and Sherbrooke is strongly recommended as the units in these important stations do not possess any suit-

able places in which to drill or store their arms and equipment. This is a very serious detriment to the efficiency of these corps and it is hoped that steps may be taken at an early date to supply their needs.

BARRACK WORKS.

(19.) The allowance of \$25 per month granted to units of the permanent force has enabled small repairs to barracks to be carried out by men of the corps with benefit to the men themselves and economy to the public, while avoiding the trouble and delay entailed by obtaining tenders from tradesmen.

INTELLIGENCE DEPARTMENT.

(20.) Heretofore no organized system of intelligence work appears to have existed in the Militia Department, and it seems most necessary that this very important matter should be at once placed upon a sound practical basis. I have recommended that an Intelligence Staff Officer should be added to the Department of the Quarter-Master General, and as it is impracticable for the Quarter-Master General to carry out this addition to his other important duties without assistance, I hope that my recommendation may be favourably considered by the Government.

The survey carried out by the cadets of the Royal Military College annually since 1895 was continued during the summer vacation and a tract of some 1,700 square miles in the Eastern Townships was completed. The previous year's survey was reproduced on a scale of 1 in. and 3 in. to a mile, making a valuable addition to our topographical information.

MEDICAL SERVICES.

(21.) In common with other branches of the Militia Department, the despatch of the contingents to South Africa entailed considerable work upon the Director General of the Medical Services, Colonel J. L. H. Neilson, G.G.H.S., and the very satisfactory manner in which the medical units were organized and equipped for service in the field reflects, I think, very great credit upon that officer and the staff of the Medical Department.

NEW MEDICAL UNITS.

(22.) Under authority of G. O. 82 of 1899 'Establishments,' eight new units of the Army Medical Corps were localized, organized and recruited during this year, and I attach (Appendix C), a very full and able report from the Director General Medical Services, giving in detail the progress made during the year in the administration of the services under his command.

MEDICAL DETAILS IN CAMP.

(23.) I had the opportunity of personally observing the work of the Army Medical Service at the Camps at Aldershot, N.S., and at Sussex, N.B., and it affords me great pleasure to report that the duties were carried out entirely to my satisfaction. The Hospital Encampments were well laid out, clean and neat, the patients appeared to be well treated and to have every practicable comfort; and the reports and documents were prepared and kept up with due care and accuracy.

ADDITIONAL UNITS.

(24.) I do not feel justified in endorsing the recommendation of the Director General that four new medical units should be organized and recruited in 1901, so far

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as the personnel is concerned ; because I consider that there are other services which are of a more urgent nature, but I strongly recommend that the material should be provided, viz. :

Technical Equipment—

32 field stretchers,
4 ambulance wagons,
4 water carts,
32 Field Hospital tents.

The officers and men, clothing and accoutrements, could be raised and provided at comparatively short notice, but the above named stores could not, and consequently it is a matter of very great importance that they should be procured without delay and held in store charge against an emergency.

APPOINTMENT OF PRINCIPAL MEDICAL OFFICERS TO DISTRICTS.

(25.) I concur in the recommendation that principal medical officers should be appointed to Military Districts 3 and 4, 5 and 6, 8, 9 and 12, but I do not consider that the nature of their duties is such as to require an annual rate of pay in addition to that which they would receive during the annual training. I suggest that these officers should be granted an 'office allowance' to cover the expense of clerical assistance, stationery, postage and sundry outgoings incidental to the performance of their duties, at the rate of fifty dollars (\$50) per annum.

The Militia Medical Services are, I consider, particularly efficient.

ROYAL MILITARY COLLEGE.

(26.) I visited the Royal Military College, Kingston, and was much pleased with the institution in every way. The Cadets appeared to be a very smart, well drilled and intelligent body of young men, and their conduct and diligence was reported to be most satisfactory. That so many of the gentlemen Cadets receive commissions in the Imperial Service, proves the excellence of the education afforded by the curriculum of the College, and it is a matter of very great regret that after receiving such a sound military training so few of the Cadets join the military service of their own country, while such a large proportion seek a market for their acquirements in the United States. I beg to urge that in view of the cost to the state of the education of these young gentlemen, it would be a national economy to offer them some practical inducement to secure their services to the Active Militia and the Permanent Corps.

I attach (Appendix E) the Report of the Commandant which I consider very satisfactory. Colonel Kitson, C.M.G., having recently been appointed Military Attaché at Washington, U.S.A., has resigned his appointment which for upwards of four years he has held with very great credit to himself and with most beneficial results to the well-being of the College. The value of having at the head of such a military institution, a soldier of Colonel Kitson's ability and experience cannot be overestimated, and in losing him Canada is deprived of the services of a most excellent officer.

ESTABLISHMENTS.

(27.) The various changes in the establishments of existing units and the new corps authorized during the year, are given in the schedule below.

The following are the principal increases :—

	Total all ranks.
<i>Royal Canadian Artillery :</i>	
Field Division, 'A' Battery.....	17
Garrison Division, Band.....	26
<i>Garrison Artillery :</i>	
Company at Sydney, C.B.....	53

Mounted Rifles :

A Regiment of 8 Companies, to be raised in Manitoba and the North-west Territories.....	360
1 Company to be raised at Toronto.....	104
1 Company to be raised in Prince Edward Island.....	46

Infantry :

The following new Regiments :—

24th Regiment (County Kent, Ont).....	186
97th Regiment, to comprise Sault Ste. Marie; Sudbury and Thessalon Rifle Companies; and 1 additional Company.....	186
1 Independent Company of Rifles, Dawson.....	45
The following Regiments to 8 Companies each, viz: G.G.F.G; 43rd; 63rd; 75th, and 94th Regiment.	
The following Regiments have been given an additional Company, viz: 21st; 27th; 56th; 62nd; 73rd, and 18th.	
Four additional Bearer Companies.....	140
Four additional Field Hospitals.....	92
Machine Gun Detachment of 1 Lieut; 1 Sergeant; 1 Corporal, and 12 Privates, for City Corps, provided they are in possession of Machine Gun.....	360

The principal reductions are :—

Manitoba Dragoons to be converted into Mounted Rifles.....	170
17th Field Battery to be replaced by Garrison Company.....	101
1st P. of W. Regiment Fusiliers.....	100
52nd; 76th; 80th, and 81st Regiments, by 2 Companies each...	360
64th Regiment by 1 Company.....	45
Brandon Infantry Company to be converted into Mounted Rifles.	45

The new Mounted Rifle Units have not yet been raised, but now that the Mounted Contingents from South Africa are expected to shortly return to Canada, it is proposed to proceed with their organization early in 1901.

STAFF APPOINTMENTS.

(28). The following changes in the Staff of the Canadian Militia took place during the year :—

Resignations—

Major-General E. T. H. Hutton, C.B., A.D.C., Commanding Militia, Feb. 12, 1900.
Lt.-Colonel F. G. Stone, R.A., Inspector General of Artillery, Aug. 7, 1900.
Colonel G. C. Kitson, Commandant R.M. College, Oct. 31, 1900.

Retirement—

Lt.-Colonel S.C. McGill, Staff Adjutant R.M. College, Sept. 15, 1900.

Appointments—

Major-General R. H. O'Grady Haly, C.B., D.S.O., Commanding Militia, July 19, 1900.
Captain E. V. O. Hewett, 1st. Bat. R.W. Kent Regt., Prof. of Staff Duties, &c., R.M.C., Oct. 27, 1900.

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SOUTH AFRICAN APPOINTMENTS.

(29). The number of Canadian Officers and Non-Commissioned Officers who were selected for appointments to the Staff and for special duties in South Africa, is a matter for much satisfaction as a proof of the high opinion formed by the Commander in Chief of the Canadian Contingents.

The following is a partial list of the fortunate recipients, and the posts conferred upon them :

- Major S. J. A. Denison, R.C.R.I., A.D.C. to Field Marshal, Commander in Chief.
- Major J. C. MacDougall, R.C.R.I., Railway Staff Officer, April 5 to date.
- Lt.-Colonel W. D. Gordon, Staff of Base Commandant, July 1. Asst. Staff Officer for Prisoners, Aug. 28 to date.
- Lt.-Colonel J. L. Biggar, D.A.A.G.
- Lieut. S. P. Layborn, R.C.R.I., attached to Army Service Corps, Cavalry Division, Feb. 11 to July 18, 1900.
- Captain D. I. V. Eaton, R.C.A., Railway Staff Officer, May 15.
- Corporal A. E. Ross, R.C.D., Civil Surgeon, attached to 1st Mtd. Infantry, from May 1.
- Trooper W. H. Peebles, C.M.R., Army Service Corps, with local rank of 2nd Lieutenant.
- Trooper H. G. Baldwin, C.M.R., Civil Surgeon, from May 1, 1900.

COMMISSIONS IN THE ARMY.

(30). An unusual large number of Commissions in the Army have been granted to Canada during the past twelve months.

Some twenty-one have been given to Graduates of, and Cadets in attendance at, the Royal Military College.

Early in the year the following Officers, who were candidates for Commissions in the Army under the regulations for the granting of Commissions to Colonial Forces, were given Commissions without undergoing further examinations :—

- Lieut. L. B. Webster, 68th Regiment.
- 2nd Lieut. A. N. Vince, Brighton Engineers.
- 2nd Lieut. E. M. Harris, 7th Regiment.
- 2nd Lieut. C. A. Boone, 36th Regiment.
- 2nd Lieut. E. S. Osler, 36th Regiment.
- 2nd Lieut. A. Lewis, 10th Regiment.

Thirty other Commissions in the Army were placed at the disposal of His Excellency the Governor General; twenty-four of these His Excellency allotted to our Special Service Forces in South Africa, and the remaining six were reserved for applicants in Canada.

No military qualification was necessary for appointment to one of these Commissions, civilians being equally as eligible as qualified officers in that respect.

Ten appointments as Assistant Inspectors in the West African Constabulary were also offered to Canada during the year. Five of these have been allotted, the successful candidates being :—

- Capt. J. L. R. Parry, 90th Regiment.
- Capt. J. Wayling, 12th Regiment.
- Capt. W. F. W. Carstairs, 56th Regiment.
- Capt. A. G. Rastrick, 37th Regiment.
- Capt. E. B. Fritze, 75th Regiment.

Unfortunately Captain Fritze failed to pass the necessary medical examination, and it is hoped that a selection for this vacancy will be made at an early date.

The five remaining Commissions have not been allotted as yet, but an intimation has been received that the nominations for them will be considered as opportunities offer.

64 VICTORIA, A. 1901

RIFLE AND ARTILLERY ASSOCIATIONS.

(31). The very great importance of the Dominion Rifle Association and the Dominion Artillery Association in their relation to the Canadian Militia cannot be overestimated.

The competitions carried out under their auspices serve to stimulate a keen interest in rifle shooting and gun practice, and it is not too much to say that the best interests of the Forces are inseparably bound up with the success and progress of these two Associations. Both, in my opinion, deserve the cordial support of everyone interested in the Militia Service, and I would add, merit all the aid that the Government can afford them.

SUBSIDIARY REPORT.

(32). I attach (Appendix B), a Report from Colonel the Honourable M. Aylmer, Adjutant General, who, between the dates of Major General Hutton's departure and my assumption of Command, was in temporary Command of the Canadian Militia, and carried out the Inspections at all the Camps of Instruction, excepting those in the Maritime Provinces. This officer's long experience of the Forces in the Dominion adds to the value of his able report which deals with rural troops that, as yet, I have had no opportunity of inspecting.

CONCLUSION.

(33). In closing this report, I desire to express my warm appreciation of the efficient manner in which their important duties have been performed by the officers of my Head-quarter Staff, and their subordinates; and my very cordial thanks are also due to the officials of the Civil Branches of the Department for the uniform courtesy and co-operation that I have received from them, which has greatly facilitated the performance of my duties.

I have the honour to be, sir, your obedient servant,

R. H. O'GRADY HALY,
Major General Commanding Canadian Militia.

OTTAWA, December 31, 1900.

APPENDIX A.

MEMORANDUM SUGGESTING MEASURES FOR THE MORE SUFFICIENT
TRAINING OF RURAL UNITS OF THE CANADIAN MILITIA.

WASTAGE.

At my recent inspections I was much impressed by the excessive 'wastage' in the country corps and the large and profitless expenditure thereby entailed upon the State.

Under normal conditions 33 per cent of the total force should represent the annual recruiting requirements of the Militia, but very careful enquiry elicited the fact that the number of recruits (i.e. 1st year men) in the ranks averaged between 50 per cent and 60 per cent of the total strength under arms, so that obviously there must have been nearly 25 per cent of *desertions*, and I was assured that similar conditions obtained every year. It is scarcely necessary to point out how detrimental this is to the efficiency of the Canadian Forces, and the serious financial loss it entails upon the country.

To me it appears degrading to the moral sense of the people that annually a large number of intelligent and fairly well educated young men should enter into a three years' contract with their country, and deliberately break it with impunity. So far as I can gather, the engagement to serve for three years is generally looked upon as an empty formality, the fulfilment of which no Government would venture to enforce, but that the very same individuals who do not hesitate to thus defraud the State, would no doubt honestly carry out a civil contract which they knew would be exacted by law.

I think it more than probable that the gravity of the offence is not appreciated, and that if it was clearly made known that 'deserters' would be proceeded against under clause 85 of the Militia Act and that a few men were tried and convicted, much of the trouble would gradually disappear, especially if a system of transfers was instituted so that young men who desired to change their residence might complete their engagement with another unit.

It does not appear from the Militia Act that any legal provision is made for the calling out of enrolled militiamen for their annual training, by personal notices, such as is prescribed by the British 'Militia Act, 1882,' Clause 21 and 22, to which I would invite attention, and I suggest that it is of the utmost importance to the efficiency of the defensive forces of Canada that our Militia Act be amended by the addition of similar provisions, with such modifications as may be necessary to adapt them to local conditions.

There is, however, another measure which I believe would go far to render service in the Militia more popular and thus serve to retain men in the ranks, and this is a scale of pay graduated in proportion to efficiency. I venture to suggest that the pay of the 'Private' militiaman be thus varied according to his service, viz:—

1st year's service	50 cents per diem.
2nd "	60 "
3rd "	75 "

And I would further strongly recommend that on the expiration of the three years' engagement, men of good conduct and especially non-commissioned officers be encouraged to continue in the service on annual attestations not exceeding six years in all, receiving a gratuity on the conclusion of each extended year's training. It must be borne in mind that the value of a measure of this nature cannot be estimated by the personal efficiency of the men thus retained, but rather by the effect upon the younger militiamen of being associated with a larger percentage of soldiers better trained and disciplined than themselves, and I can answer for it, as the outcome of many years' experience in the training of young soldiers, that habits of cheerful obedience and other soldier-like attributes are far more quickly acquired from good example, than by any amount of precept or coercion.

DURATION OF TRAINING.

It is absolutely impossible in twelve days (from which must be deducted one Sunday and the days of arrival and departure) to give more than the most perfunctory and rudimentary training to the Country Corps in Camp.

I can testify to the admirable zeal and diligence with which the drills and duties are carried out by all ranks, but the time is far too short to produce any real practical result in tactical efficiency. One most conspicuous defect is that with so large a percentage of 'recruits,' the drill of the older soldiers is kept back until the former are, to a certain extent, fit to take their place in the ranks, and to meet this difficulty I would suggest that the 'recruits' should drill for the full sixteen days permitted by the Act, performing four days 'recruit drill' before the remainder of the unit assembled for training.

This preliminary drill could be carried out at the Regimental Head-Quarters under the Adjutant, Sergeant Major and some picked instructors, or better still at the 'Camps of Exercise,' and I am confident that it would be found to greatly increase the efficiency of the Forces.

I must, however, most strongly urge that even the full sixteen days is quite insufficient for the effective training of the troops, and that to obtain any practical efficiency, clause 60 of the Militia Act should be so far amended as to make the statutory drill period from eight to twenty-four days instead of from eight to sixteen days as at present. The 'recruits' of rural corps should then perform twenty-one days drill and the trained soldiers fourteen days, the latter assembling seven days later than the former. This would permit of a few days being devoted to practical training in field manœuvres which under existing conditions is absolutely impossible, and so strongly am I convinced of the benefit that would result from this extension of the training period, that if expense be an obstacle to its adoption, I would advocate training fewer infantry units annually and thus improve the quality at some sacrifice in quantity.

It would not be advisable to omit the training of any of the Cavalry or Field Artillery units. Such large sums have been expended on luxurious drill halls and armouries for the urban corps, that I venture to urge the claims of the country corps to consideration. In these the Dominion has the making of a magnificent force of hardy, willing and intelligent men upon whom the country might with confidence rely, if only its unquestionable capabilities were properly developed in time of peace, and any expenditure incurred in improving the opportunities for its training, and making the service more popular, would, I am sure, be money well laid out.

CAVALRY AND ARTILLERY HORSES.

As a rule the mounted units that came under my observation in the Maritime Provinces, were very well horsed, but it has been brought to my notice that it would greatly facilitate the keeping up of the Cavalry Regiments and Field Batteries, if rough shelters for the horses could be provided at the Camps.

I myself saw at Camp Sussex, N.B., the horses of the 8th Hussars and the 10th and 12th Field Batteries standing for forty-eight hours with saturated blankets and sleeping in pools of water.

Such an experience deters farmers from hiring their horses or bringing them to Camp themselves, and it could be avoided by constructing very rough shelters. On active service it is unavoidable that both men and horses shall suffer privations and exposure, but no useful purpose is served by making them do so for instructional purposes.

It only disgusts the men and renders the service unpopular.

From inquiries I made, I have reason to believe that were such rough stables constructed, the men would for the most part, gladly pay from 50 cents to \$1 each per training for the use of them, which would in time pay the greater part of their cost and expense of up-keep.

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MESSING AND RATIONS.

My observations and inquiries at the camps have convinced me that the messing arrangements for the rank and file are not yet so satisfactory as they might be, and I think to some extent this deters men from joining and remaining in the service; the cooking and the conditions under which the food is served out and eaten, being usually very far from comfortable. On active service such conditions would be unavoidable, but in camps of instruction more suitable arrangements could easily be made. Of course the most complete would be an issue of marquees, say one between two companies, with tables and forms, but this would entail perhaps more expense than I consider justifiable for the short period that the men remain in camp. As an alternative I recommend an arrangement that I saw in use by the 69th, 78th and 93rd Regiments at Aldershot Camp, N.S. This consisted of tables and forms of rough lumber erected by carpenters in those Regiments and the cost complete was about \$25 per Battalion less the amount realized for the lumber, which was sold at the termination of the Camp. In fine weather the men were able to take their meals in a much more orderly, cleanly and comfortable way at these tables than those who messed in their 'Bell' tents.

The credit of this plan is due to Lt.-Colonel Irving, D. O. C., District No. 9, at whose suggestion the experiment was tried, and it was so far successful that I recommend it for further trial at summer camps.

The rations supplied were, in my opinion, of very good quality, and ample in quantity, but I think a little more variety would be greatly appreciated by the men; and I beg to suggest that twice a week a ration of pork and beans be issued in lieu of meat and cheese. This would not cause any additional expense, but rather a saving.

Twelve lbs. of pork (mess pork) and $\frac{1}{2}$ bushel (30 lbs.) of beans (yellow eyed) would, it is asserted, make a good meal for one hundred hearty men, but I confess I look upon this as somewhat under-estimated.

Pork averages 10 cents per lb. and beans about \$1.50 per bushel, and allowing for one hundred men, as much as 36 lbs. pork, \$3.60; 1 bushel beans, \$1.60; total, \$5.20; the cost per ration would be a small fraction over 5 cents, whereas the meat and cheese ration costs, I believe, about 6 cents.

The cooking at the Aldershot and Sussex Camps was primitive and very rough, and in this matter I think there is room for some considerable improvement. There is no difficulty, I am told, in securing the services of men thoroughly experienced in the methods of cooking practised in lumber camps, and I would advocate very strongly that a proportion of such men be hired for the summer camps as 'Master Cooks' to supervise and give instruction in preparation of men's food in a palatable form. By this means it would be possible to establish a uniform system of camp cookery that would give satisfaction to the troops.

In submitting the foregoing remarks and recommendations, I beg to add that they are the result of very careful observation and inquiry, representing also the views of many experienced Militia officers whose opinions I consider very valuable. My suggestions involve no drastic changes of organization nor of system, and I am confident that if adopted they would tend to such efficiency as would amply compensate for a small addition to the estimates. I venture to hope therefore that you will give them your favourable consideration and that it may be possible to give effect to them in the coming season.

R. H. O'GRADY HALY, Major General,
Commanding Canadian Militia.

APPENDIX B.

REPORT OF THE ADJUTANT GENERAL, CANADIAN MILITIA.

To the Major General Commanding Canadian Militia :

OTTAWA, January 14, 1901.

SIR,—I have the honour, by your request, to report on the work of my office during the year ending December 31, ultimo.

ANNUAL TRAINING.

(1.) Having been in command of the Militia from the date of the retirement of Major General Hutton, viz., February 12, 1900, until the date of your arrival in Montreal, viz., July 29, 1900, it fell to my lot to inspect the following Camps of Instruction :—

Military District No. 1, at London.

“ No. 2, at Niagara-on-the-Lake.

“ No. 3 and 4, at Kingston.

“ No. 5 and 6, at Laprairie.

“ No. 7, at Levis,

and the Artillery Camp at Deseronto.

I deem it advisable to bring to your notice, in anticipation of the time when you may have an opportunity of judging for yourself, the following remarks on the state of the Force under your command, in the Districts named.

DIVISIONAL CAMPS.

(2.) The Divisional Camp system inaugurated during the preceding year, was followed during 1900. This system might be profitably adapted for the training of the Militia, if the area of the camp grounds, and the numbers of Instructional Staff available were sufficient, and the period of annual training increased from 12 to 16 days at the least.

The number of privates per company of the rural regiments of infantry might, in my opinion, be reduced, and a progressive rate of pay for length of service, as well as an increase of pay to all qualified N. C. officers, provided, with a view to inducing this deserving class to become thoroughly efficient, when they would be available as efficient section commanders and, possibly, instructors.

If these conditions, or most of them, are not obtainable, then the system of Brigade Camps which formerly prevailed, is to be preferred.

CAMP GROUNDS.

(3.) In every instance I found the camp grounds systematically and well laid out, clean and tidy. I fear, however, that in some instances they will have to be abandoned for want of convenient rifle ranges.

CAMP EQUIPMENT.

(4.) The camp equipment supplied was all that could be reasonably expected. At Laprairie and Levis a good deal of wet weather was experienced. There appeared to be ample waterproof sheets and blankets, and the tents appeared to be proof against the rain.

I could not, however, fail to observe that the men are not provided with comfortable and common sense means of enjoying their meals. To see N. C. officers and men squatted around their tents, with greasy mess tins in their laps was not a pleasing sight at this date of our military organization, and I consider that prompt measures should be taken to remedy this.

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A few regiments had provided tables, forms and awnings, for their own use, and these regiments were consequently comparatively comfortable. An expenditure of \$200 per regiment would go a long way towards providing a messing tent, &c., and I consider that in no way could money be better expended in the interest of comfort and discipline. It does not seem fair that officers should be obliged to bear the cost of what is a prime necessity, and which I am sure the public would be glad to see made a charge against the revenue of the country.

DESERONTO CAMP.

(5.) For some six consecutive weeks Field Artillery camps assembled at Deseronto, under the command of Lt.-Colonel Stone, R.A., Inspector General of Artillery, whose report on these camps is before you.

Deseronto has advantages which should make it an important centre for artillery training, as well as for the mobilization and manœuvre of the other arms. It occupies a convenient geographical position in No. 3 Military District; is easy of access; an excellent place for gun or rifle practice; the camping grounds are large and are convenient for railway and steamboat travel, as well as being near the town, and there is an unlimited supply of excellent water. There are no other grounds within No. 3 Military District where gun and rifle practice can be carried on with safety.

CANTEENS.

(6.) We have heard a great deal during the past few years about the sale of liquor in camps. While I do not think that strong alcoholic drinks should be permitted, I am unable, after an experience of many years with the Canadian military forces, to advocate, or understand how well-intentioned people can advocate prohibiting the sale of lager beer and soft drinks. That men who have performed hard training in the heat of the day should be obliged to quench their thirst with lukewarm water conveyed to the grounds through half-exposed pipes, or in open headed hogsheads, and thus exposed to impurities, seems to me to be most unreasonable. If men are able to obtain soft drinks and lager beer instead of being compelled to drink impure or nauseating water, it would have the effect of restraining them from seeking stronger drinks outside the camping grounds, and from bringing liquor into camp in bottles, and thus temperance might better be promoted.

CEREMONIAL DRILL.

(7.) There are those who affect to sneer at ceremonial parades, but my knowledge of our militia has taught me that nothing steadies down all ranks and all arms, during our short period of drill in camps, more than the old-fashioned 'march past,' 'advance in review order' day, and the earlier this is carried out during the period of training the better; it should be limited to one or two practices.

At London this parade did splendidly; at Niagara and Levis, well, and, at the other camps I saw each brigade parade and carry out the usual formality, and after one or two trials, make surprising progress.

These parades cement a brigade together, bring the bands and all ranks into touch, and create a spirit of emulation that paves the way to more important operations.

CLOTHING AND BOOTS.

(8.) I found the clothing of good quality and as well fitting as could be expected where it is impossible to have it fitted for each individual man. It would, I think, add greatly to the comfort if the men were to adopt head-dress and clothing on the lines followed last year at London and Niagara, where straw hats and flannel shirts took the place of forage caps and tunics in some regiments.

The question of boots is a most difficult and serious problem for consideration. My solution would be, when a man is found deficient of a pair of serviceable boots to remove his name from the pay list of his company, and to return him at once to his headquarters. If he should prefer to remain with his corps he should be provided with a pair of government boots, at a fixed price, and the amount deducted from his pay. These boots should not be valued at more than \$1.90, and if well made and of good material they should prove a boon to the man, either in or out of military service.

CAVALRY, RURAL CORPS.

(9.) The subject of mounted units is so interesting that I would like to call your attention particularly to it, as I am aware how much weight you attach to the question of mounted rifles.

The men and horses of the cavalry are, generally speaking, all that can be desired from a physical standpoint.

The men, who are from among our best to do people of the rural constituencies, are especially intelligent. Quite ninety per cent of the horses were well fitted for rough cavalry or mounted rifle work. Some of them were, perhaps—too valuable. The saddlery was good, but many of the head stalls and girths were too long—too much leather appearance— and many of the bits were, strange to say, too small to reach comfortably across the horses' mouths. The regulation bit and bridoon are not at all suitable to our unbitted Canadian horses. The Pelham is the better bit. Many collar ropes were conspicuous by their absence.

The system of picketing horses is generally well understood. With a sufficient supply of serviceable head and heel ropes of good quality, there should be no injuries to horses within the lines, as there have been frequently in the past.

Feeding is also well understood, and our veterinary officers are equal to all occasions, so far as our service is concerned.

The above practically applies to Field Artillery as well as Cavalry, except, perhaps in relation to biting.

Natural shelters for horses from the hot sun which the trees afforded, were not always taken advantage of, from which I drew the conclusion that all Cavalry and Field Artillery commanders are not horsemen.

ENTERTAINMENTS IN CAMPS.

(10.) In some camps, London in this respect being particularly fortunate, many kindly disposed people lent their energies towards providing entertainments and supplying reading and writing material, as well as a place in which all ranks could read or write. In these several ways, the clergy, the ladies and the Y.M.C.A. greatly aided the Commandants and Staff.

GUARDS AND INLYING PICQUETS.

(11.) For some years it has been the rule to dispense with regimental guards and picquets. This has proved a decided mistake, as the neglect of brigade staff inspections, and particularly the want of daily inspections, has resulted in rusty rifles, dirty equipment and boots, and the unsoldierly habit of wearing long hair, to say nothing of the thousand and one important little lapses that only the daily inspection of a competent brigade staff officer can effectually check. It is wonderful how the change is effected by these inspections. In a day or two the belts and rifles improve; in a couple of days more, the men appear with their hair cut, and a more tidy appearance—and by the end of the first week they can hardly be recognized as the troops who marched into camp, and the little gained each day, seems to permeate the whole, when, as if by magic, a soldierlike force presents itself throughout the camp.

MEDICAL SERVICE.

(12.) I understand the Director General Medical Services is making the medical service the subject of a report to you, but I would like to add, here, that nothing I saw during the camps gave me greater pleasure, or impressed me more favourably, than the extraordinary advancement made in this important branch, which augurs well for a possible Army Service and Engineer corps Service in the near future.

OFFICERS.

(13.) Except in occasional instances the officers of all arms were well turned out and uniformed. The want of sword knots and gloves appeared to be the rock upon which many split.

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The majority of young officers had not qualified for commissions, but promised to do so at an early date. The possibilities, under proper guidance and encouragement, presented by the force of officers, alone, that I saw during my inspection, are pregnant with great military possibilities. They showed zeal and aptitude far beyond what their apparent opportunities could have afforded. Many of them are hard and clear-headed business men, and it should be made evident to them that soldiering is a business and not a mere holiday affair, and that they cannot do good soldiering without modern arms, the most sensible equipment, and efficient officers and men to carry out successfully the minutest detail.

The mounted officers were remarkably well turned out, and their riding was exceptionally good. It made me feel that the equitation courses provided by regulations have borne good fruit.

RIFLES AND EQUIPMENT.

(14.) The Snider-Enfield, the knapsack and the pipe-clay should be banished and the bayonets left at home. There is a universal feeling that they are out of date, and no amount of talking, scolding or 'instilling discipline' can stimulate the enlightened rank and file to devote their spare time to furbishing up a lot of trash. Even if the Department cannot provide proper armouries and a sufficient number of district staff officers to look after them, still, I maintain, the new Lee-Enfield rifles and Oliver equipment should be issued to all infantry, and let them take their chances with the regimental officers for safe keeping, for, under the present order of things, the whole infantry force of the rural districts is fast losing self respect, from the effect of being served out with an obsolete and used-up arm, and a lot of worthless equipment. I hardly took a Snider rifle in my hand, at any inspection last year, that was not unfit for use.

RIFLE PRACTICE.

(15.) In cases where there were no rifle ranges available the Morris Tube was used to fairly good purpose, for loading, aiming, and holding the rifle correctly, &c., and, in a few cases, that miniature system was also taken advantage of by way of supplementing the inadequacy of the range proper; but in no instance did the men receive either the theoretical or practical training necessary to ensure average shooting.

The crudest attempt at judging distance does not appear to have assumed even the form of a dream with our force, and it struck me most forcibly, as I passed from camp to camp, how terribly at sea our troops would be, were they armed with the best rifle, in event of having suddenly to face the *meanest* of 'regular' troops who had a fair idea of distance, to say nothing about their fire discipline, or their powers of shooting to hit.

STAFF OF THE CAMP.

(16.) I feel justified in saying that no country can produce a harder working or more intelligent staff than did duty from early morn till late at night, day in and day out, at every camp from London to Lévis, and the proof of their competency is the fact that progress and improvement was evident, and that these large bodies of men and horses were assembled, fed, sheltered, carefully instructed and transferred back to their homes without a serious casualty, mishap or crime.

NUMBERS TRAINED.

(17.) A feature of this year's camps was the large number required to complete the authorized establishment of the several corps. The only explanations I am able to give as to the cause of this, are, first, the large number of militiamen who were on service in South Africa, and secondly, the good times which prevailed at the time. Appendix F(1) will show the numbers trained, partly trained, and untrained.

SPECIAL SERVICE FORCES.

(18.) Having three thousand troops in the field in South Africa has made the year one of unusual moment in my office.

Officers commanding corps were instructed, on their departure from Canada, to forward by mail, weekly, the following:—Weekly state, Weekly sick report, Weekly staff Diary.

In addition to these reports they were instructed to forward, as opportunity permitted, general reports and also special reports on important actions in which their commands took part.

They were also instructed to report by cable all casualties and other matters of sufficient importance to warrant the expense. Speaking generally, it has been most evident that great care was taken by commanding officers to keep this office well informed as to all that was occurring, particularly the casualties, which were also reported to His Excellency the Governor General by Sir Alfred Milner, High Commissioner, Cape Town. Receiving information from these two sources, this office was enabled to announce casualties, with very few exceptions, promptly and correctly.

Once a week the commanding officers in South Africa were written to by me, in order that they and the Department should be kept well in touch, and that they should be informed as to what was occurring in Canada in connection with the Militia.

Early in July an arrangement was made by which cablegrams could be transmitted between our troops in South Africa and their relatives in Canada at a greatly reduced cost. These messages were forwarded as packed telegrams through the London Post Office. All telegrams to and from Canada were dealt with in this office, where they were unpacked and repeated to the parties concerned in Canada, or packed and sent to the Post Office at London for onward transmission to South Africa. This arrangement has been taken advantage of to a great extent by our troops in South Africa, and also, but not to so great an extent, by their relatives in Canada.

Great care is being taken in making the records concerning our Special Service Troops complete. These records are being made on cards, one for each officer, non-commissioned officer and man. On one side of the card will be the name, and particulars as regards age, regimental number, next of kin, place and date of appointment or enlistment, etc. On the other side the officer's or man's history as regards promotion, wounds, death from any cause, invalided home, date of discharge, &c.

When completed it is the intention to have these cards alphabetically arranged and bound. Their preparation is involving a great deal of time, and consequently expense, but it is believed that providing such easy means of procuring accurate particulars respecting our Special Service Troops will more than justify the expenditure of both time and money.

SCHOOLS OF INSTRUCTION.

(19.) The large number of officers, non-commissioned officers and men of the Permanent Force who proceeded on service in South Africa rendered our Cavalry and Field Artillery Schools of instruction non-effective on the organization of the 2nd Contingent at the beginning of the year. An interruption in the courses of instruction at these stations was unavoidable.

In order that instruction might be resumed at the earliest possible date, officers, non-commissioned officers and men of the Permanent Corps, serving in South Africa, were made supernumerary to the establishment of their corps, and officers commanding units were authorized to enlist men for the vacancies, excepting as regards 'B' Battery, R.C.A. which was amalgamated with 'A' Battery at Kingston.

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Officers were attached to the Permanent Corps for duty as follows :—

ROYAL CANADIAN DRAGOONS.

Rank and Name.	Corps.	Corps to which attached.	From	To
Capt. E. H. T. Heward (in command with temporary rank of Major).....	R. O.....	'A' Squadron ..	Feb. 26, 1900	Still serving.
Capt. W. D. Johnston.....	3rd Dragoons...	" ..	" 26, 1900	"
Lieut. A. H. H. Powell.....	P. L. D. G.....	" ..	Mar. 10, 1900	"
Capt. J. L. R. Parry.....	90th Regt.....	'B' ..	Sept. 13, 1900	Dec. 5, 1900.

ROYAL CANADIAN ARTILLERY.

Major J. M. Caines (with rank of Lieut.)..	5th Fd. Battery	'A' Fd. Battery..	May 19, 1900	Still serving.
Capt. L. J. O. Ducharme.....	13th "	" ..	Apr. 26, 1900	"
Vety. Capt. W. J. Morgan.....	5th "	" ..	Mar. 12, 1900	"
Capt. E. Laliberté.	1st "	" ..	Dec. 2, 1899	Mar. 13, 1900.
Lieut. W. T. Miller.	4th "	" ..	Feb. 27, 1900	Still serving.
Capt. F. W. L. Moore	4th Regt. C. A.	Garrison Division.	Mar. 5, 1900	"

ROYAL CANADIAN REGIMENT OF INFANTRY.

Major J. S. Dunbar.....	8th Regiment..	No. 4 Regtl. Depot	Jan. 8, 1900	Still serving.
" J. Galloway ...	14th "	" 1 "	Feb. 7, 1900	Aug. 17, 1900.
Capt. E. E. F. Taylor.....	G. G. F. G....	" 2 "	" 7, 1900	July 31, 1900.
" J. J. Sharples.	8th Regiment..	" 4 "	" 7, 1900	" 27, 1900.
2nd Lieut. R. Wood.....	10th "	" 2 "	" 10, 1900	Mar. 24, 1900.
" J. Grant.....	66th "	" 5 "	" 14, 1900	Jan. 10, 1901.
" J. Carlon.....	10th "	" 2 "	Mar. 24, 1900	Still serving.
" G. W. M. Farrell.	66th "	" 4 "	Sept. 1, 1900	"

Courses of instruction were resumed as follows :--

- Cavalry School, Toronto, April 2, 1900.
- " Winnipeg, May 25, 1900.

Artillery School, Kingston, April 21, 1900.

Appendix F (2) shows the number of certificates granted during the year.

YUKON FORCE.

(20.) The balance of the Yukon Garrison, being no longer necessary as such, and the officers, non-commissioned officers and men being urgently required at their respective stations, was withdrawn upon the opening of navigation.

The rifles with which the Garrison were armed, and the ammunition, were left at Dawson, in the custody of the North-west Mounted Police.

A soldierlike spirit and zealous attention to duty characterized all ranks of this Force during its two years' service in the Yukon.

STAFF COURSE.

(21.) Owing to Lieut.-Colonel H. H. Burney, Gordon Highlanders, Professor of Strategy, Tactics and Staff Duties, at the Royal Military College, having resigned his appointment to rejoin his regiment, and to the difficulty of doing without the services of the Officers of the Permanent Corps who were selected to undergo the Course, at a time when so many Officers were in South Africa, the Staff Course for 1900, which commenced at the Royal Military College February 1, was discontinued from the 17th of that month. This was regrettable, but under the circumstances unavoidable.

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The offer of temporary employment in connection with our schools of instruction, to the Officers who had obtained leave of absence from their civil employment to undergo this Course, was a thoughtful act on the part of the Honourable the Minister, and tended to lessen the disappointment caused by the discontinuance of the Course.

I have the honour to be, Sir,

Your obedient servant,

M. AYLMER, Colonel,

Adjutant General.

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APPENDIX C.

CANADIAN MILITIA ARMY MEDICAL SERVICES—REPORT FOR 1900.

(From the Director General Medical Services.)

To the Major General
Commanding the Militia.

EPITOME OF WORK ACCOMPLISHED.

SIR,—I beg to submit this my report for the year 1900.

2ND CONTINGENT TO SOUTH AFRICA.

With the beginning of January the undermentioned medical duties were being carried out under my direction :

RECRUITING.

1. Examination of recruits : This duty was fairly carried out in the larger military centres, but in the North-west Territories recruits had to be examined by civilian practitioners in many places where there were no Militia medical officers, with the result that on re-examination at a later period about 6 per cent were finally rejected as physically or mentally unfit. Several Militia examiners were also guilty of carelessness in this respect.

MEDICAL OFFICERS SELECTED.

2. The following Medical Officers were selected from about 110 applicants for service with the Canadian Militia in South Africa :—

Surgeon Major H. R. Duff (Surgeon-Major, 4th Hussars), detailed to the Royal Canadian Dragoons.

Lieutenant J. A. Devine (late Surgeon-Lieutenant, 90th Regiment), detailed to the Canadian Mounted Rifles.

Major A. N. Worthington (late Surgeon-Major, 53rd Regiment), detailed to the Brigade Division Field Artillery.

Lieutenant L. F. Vaux, A.M.S., unattached. These in addition to the three Medical Officers who accompanied the First Contingent.

FEMALE NURSES.

3. About 190 Canadian Graduated Nurses volunteered for service in South Africa. The Imperial authorities accepted the services of four only :

Miss D. Hurcomb,
" M. Horne,
" M. Macdonald,
" M. P. Richardson.

Four nurses had been sent with the First Contingent.* On their return to Canada I recommended that the *cadres* of a nursing service be inaugurated in connection with the Militia, and that positions therein be offered these ladies and other graduated and qualified nurses.

* Misses G. Pope, S. Forbes, M. Affleck, and E. Russell.

FIELD MEDICAL EQUIPMENT.

4. (a) There being no reserve of first field dressings, 1,300 packets were hurriedly manufactured, and the required number supplied to each unit. They seemed carefully made and equal to the packet issued to the Imperial Force.

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(b.) The field equipment, as required by the 'Regulations Army Medical Services, 1897,' page 149, was issued to each unit, and in addition eight light field stretchers (Canadian pattern).

(c.) A chest containing medical and surgical necessities, and cases of medical comforts were provided for use on board ship, so that the field medical equipment might not be depleted before reaching South Africa.

(d.) A sufficiency of the best vaccine virus procurable, so that all might be vaccinated, was supplied to each medical officer, also some typhoid virus.

Appendix 'A' is a copy of the instructions issued by me to each medical officer in charge of troops on board ship.

MEDICAL REPORTS FROM THE FIELD FORCE.

5. The sick reports forwarded from the front to me by these officers are filed in the Adjutant General's office, under the following numbers:—

90140—Royal Canadian Dragoons.

88245— " Artillery.

89015—Canadian Mounted Rifles.

89752— " "

90905—1st " "

I have received no report whatever from the officer in medical charge of Strathcona's Horse.

RETURNING INVALIDS.

6. Application has been made to the Imperial authorities for instructions as to the organization of medical boards to report on cases of permanent or temporary disability. Definite instructions and assistance are meanwhile anxiously looked for by the returned disabled militiamen. A few have, however, been granted gratuities or pensions.

THE MEDICAL SERVICES.

THE C. M. A. MEDICAL STAFF.

1. The Canadian Militia Army Medical Staff G. O. 62 of 1899, para. 12, provides for the supervision of military districts by principal medical officers, and in G. O. 41-1900, page 12, three officers were appointed to Militia Districts. These appointments are still open in military districts 3 and 4, 5 and 6, 8, 9 and 12. To each group of districts I propose that one principal medical officer shall be appointed in addition to three already appointed. No special rate of pay has yet been sanctioned (see G. O. 62-1899, para. 12. I propose that it be fixed at 50 cents per diem in lieu of all expenses connected with the administration of the service, except when this officer is in receipt of full pay when on duty with troops.

(a.) Under provisions of G. O. 62-1899 and 19-1900 the medical staff was organized in March of this year, and the officers who had volunteered for this service were gazetted thereto by G. O. 25, pages 8, 9 and 10.

THE C. M. A. MEDICAL CORPS.

2. The Canadian Militia Army Medical Corps. No. 1 Bearer Company, Halifax, was formed in September, 1898, under authority of G. O. 64, 1898. Details of its personnel, special organization and loan technical equipment are to be found in A.G.O. No. 57350. It exists in connection with the Imperial scheme of defence of the Fortress of Halifax.

I inspected this company on March 16, 1900, and also on July 6, 1900. I am pleased to report on its general smartness and efficiency. The N. C. officers and men display great intelligence, interest and zeal in the performance of their duties. The General Officer Commanding Her Majesty's Forces in North America testifies to their

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good work in an extract of his General Orders to be found in Militia Order 157 of 1900, para. 3. The technical equipment loaned by the Imperial authorities, and accoutrements are well kept, the uniforms clean and tidy. The commanding officer, Major Jones, deserves special commendation for his good work. His two subalterns have qualified since my last inspection, in accordance with G. O. 19 of 1900, paras. 8 and 9.

EIGHT UNITS, A. M. C.

3. Under authority of G. O. 82 of 1899 'Establishments,' pages 23-24, eight new units of the A.M.C. were localized, organized and recruited under the officers of the A. M.S., detailed for command in G. Os. 23 and 25, 1900. They were uniformed and provided with technical equipment before June last. Subaltern officers were selected from the A.M.S. and detailed for duty with their respective units, in Militia Orders.

FIELD HOSPITAL CO'S., A. M. C.

4. No. 2 Field Hospital performed its drill and training, and was utilized as such in No. III. Divisional Camp at Kingston, Ont.

(a.) No. 3 Field Hospital. The complete organization of this unit has been delayed owing to the absence of its commanding officer, Major C. W. Wilson, A.M.S., while on duty in South Africa. He has now returned and is devoting his attention to completing the personnel and organization of this unit.

(b.) No. 4 Field Hospital. Under its able Commanding Officer, Captain A. Y. Scott, performed excellent service, and carried out the syllabus of training at No. II. Divisional Camp, Niagara, in a very satisfactory manner.

(c.) No. 5 Field Hospital displayed special zeal and aptitude at No. IX Brigade Camp, Lévis.

BEARER CO'S., A.M.C.

5. No. 1 Bearer Company has been reported on above. The four new Bearer Companies, organized under authority of G.O. 23-1900, received nine days training at their regimental headquarters, and three days under canvas, in the Divisional or Brigade Camps, as hereunder:—

No. 2	Bearer Company	in	No. III	Divisional	Camp.
" 3	"	"	"	IV	"
" 4	"	"	"	II	"
" 5	"	"	"	IX & X	Brigades

(a.) This camp training of these units, particularly in connection with field days and manœuvres, was not only of great practical value to them, but their professional services were of distinct utility and they served also as a useful object lesson to the staff and members of the Division or Brigade they were attached to.

(b.) I thus inspected all the units of the A.M.C., during the camps, or at their headquarters. With the exception of No. 2 Bearer Co. I was favourably impressed by the results of this their first training, and by the zeal of the officers, the intelligence of the N. C. officers and privates, their eagerness to learn, their exemplary behaviour, qualities which augur well for the future efficiency of the A.M.C.

(c.) The Commandants of Camps have expressed themselves to me as well pleased by the services performed and the example given by the A.M.C., Units.

EIGHT NEW UNITS FOR 1900-1901.

6. The organization of eight additional Units of the A.M.C. being sanctioned and included in the Militia Establishments for 1900-1901, the localization of the new units has been approved as hereunder:—

No. 6	Bearer Company,	London,	Ont.
" 7	"	"	Hamilton, Ont.
" 8	"	"	St. John, N.B.
" 9	"	"	Vancouver, B.C.
" 6	Field Hospital,	Sarnia,	Ont.
" 7	"	"	Toronto, "
" 8	"	"	Charlottetown, P.E.I.
" 9	"	"	Winnipeg, Man.

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(a.) The recruiting of the personnel will be proceeded with as soon as the Commanding Officers are appointed (Gazette before Privy Council).

The A.M.C. will then consist of seventeen units :—

9	Bearer Companies,	344	of all ranks.
8	Field Hospitals,	192	“ “
Totals, 17		536	

(b.) The personnel of these units is of course on the peace scale. On the war scale their strength would be :—

9	Bearer Companies,	576	of all units.
8	Field Hospitals,	360	“ “
Totals, 17		936	

(c.) Bearer Companies, Nos. 1 and 9 are for service with the garrisons of Halifax and Esquimalt.

RECOMMENDATIONS.

7. If the policy inaugurated by G. O. 62 of 1899, be adhered to, four additional Bearer Companies will have to be formed. I recommend that their organization be sanctioned, and the cost added to estimates for the financial year 1901-1902. The full complement contemplated by G. O. 62 of 1899, shall be attained. Two of these Bearer units should be equipped with a view of exceptional mobility in order to co-operate with two Cavalry Brigades. The other two would be for service with forces defending strategical points.

(a.) At the close of the financial year 1901-1902 the Militia Force shall then possess the necessary Medical Staff, also 21 units A.M.C., this being the complement required by an offensive-defensive field force consisting of :—

- 2 Infantry Divisions.
- 2 Cavalry Brigades.
- 2 Independent Brigades of all arms, plus
- 5 Bearer Companies for 5 strategical centres.

The Medical Equipment will have to be added to in the early future.

INSTRUCTION AND TRAINING.

8. The complement of officers of the Canadian Militia Army Medical Staff is 72. Of these comparatively few were qualified for their ranks on the 1st March last. (G.O. 19, 1900, para. 1). To give them and the Officers of the regimental service an opportunity to qualify at an early date, Courses of Instruction (G.O. 19, 1900, paras. 8 and 9) were formed in the following camps of instruction :—

Nos. 1, 2, 3 and 4 Divisional Camps, and in the 9th, 10th, 11th and 12th Brigade Camps.

This permitted 80 Medical Officers to undergo the Course of Instruction, of whom 11 failed to pass the examination.

At present 47 of the 72 Officers of the A.M.S. are qualified under G.O. 19, 1900, paras. 8 and 9, for their present ranks. 38 regimental medical officers have also qualified.

(a.) The instruction of the A.M.C. units was carried out at Corps Head-Quarters and in Camps, under the supervision of the Commanding Officers, by the 4 Sergeant Major Instructors, who had been sent last year to undergo a special course of training at Aldershot Camp, England. I hope to be permitted to utilize them in like manner during the coming year, and until such time when the N.C. Officers of the A.M.C. units shall have become quite proficient enough to act as Instructors.

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ACCOMMODATION IN DRILL HALLS.

9. In Military Districts Nos. 1, 2, 5 and 6, 8 and 12 (also at Sarnia for No. 6 Field Hospital and Hamilton for No. 7 Bearer Company) accommodation to the extent of 1 store room, 1 lecture room and 1 officer's room is required for each unit or group of units.

HONORARY COLONEL, A.M.C.

10. I have received individual expressions of opinion of Officers of the A.M.S. that it would be a distinct honour, and most gratifying to all the members of the Medical Services if Surgeon Lt.-Colonel the Honourable F. W. Borden, Minister of Militia, would consent to become Honorary Colonel Commandant of the A.M.C. with the rank of Colonel in the Militia. The Medical Services would not likely have emerged from their former hopeless and ineffective condition, had it not been for the kindly interest taken in them by Surgeon Lt.-Colonel Borden, in his capacity of Minister of Militia and Defence.

ESTIMATES FOR THE MEDICAL SERVICES, 1901-1902.

11.

Pay for 4 new Bearer Cos. for annual training.....	\$1,355 52
Rations (420) " 3 days in camp " say.....	180 00
Clothing and accoutrements for 4 Bearer Cos	2,800 00
Technical Equipment " "	1,600 00
32 field stretchers " "	375 00
4 ambulance wagons " "	900 00
4 water carts " " say	500 00
32 Field Hospital tents, say	1,500 00
Towards creating a reserve Medical Supplies	1,000 00

Staff Personnel as per para. 1 above.

Pay for 6 P.M.Os of District at 0.50 per diem. \$912 00	
LESS—12 days each, while on full pay. 36 00	
	876 00
	<hr/>
	11,086 52

12. The medical service in Regiments has been well carried out except in a few rural corps.

I have the honour to be, sir,

Your obedient servant,

J. L. HUBERT NEILSON,

Colonel, D.G.M.S.

HEAD-QUARTERS, OTTAWA,

Dec. 14, 1900.

APPENDIX C.(A.)

TO MEDICAL REPORT, 1900.

INSTRUCTIONS FOR MEDICAL OFFICERS ON HIRED TRANSPORTS TO THE CAPE.

1. You will be responsible to the Commanding Officer for the medical service, administration, cleanliness and discipline in hospital ; you will advise him on matters of sanitation. Twice a week you will make a thorough medical examination of all men and of the quarters.

2. You are charged with the training of hospital attendants and stretcher-bearers, in stretcher drills, and you will arrange a course of 'first aid' for the latter, and see that the use, &c., of first field dressings is explained to all ranks, and well understood by all.

3. For the duties of ward-master, dispenser, &c., you will recommend to the Commanding Officer the most competent individual from among the N. C. officers or the ranks. He will be given the rank of Medical Orderly Corporal ; he will also be responsible to you for discipline, order and regularity in the hospital.

4. For your general duties you will be guided by Queen's Regulations, 1899, and Medical Regulations, 1897.

5. As soon after the vessel leaves port as convenient, you will arrange with the Commanding Officer for the vaccination of all members of the force, and of such of the crew as need it, so that all evil effects of the operation on individuals may have disappeared before disembarkation.

6. The anti-typhoid serum supply is very limited, you will use your judgment in inoculating any but the younger men, who are more likely to contract enteric fever.

7. Consult with the Commanding Officer about the placing of the first field dressing in the skirt of every man's frock, together with the individual's Description Card, filled. This should be done before the ship reaches the Cape.

8. The services of the nursing Sisters will be called upon only for attendance on serious cases of illness or injury during the passage. These ladies are to report to the P.M.O. at the base.

9. Enter in a book all prescriptions and issues from medicine chests. The medical stores in your charge are divided into two classes—

(1) For shipboard only :—

- 1 Medical chest.
- 1 Material and surgical chest, including 1 case capital instruments.
- 1 Box medical comforts.
- 1 Hospital clothing as per inventory.

These will be stored at port of disembarkation for the return voyage.

NOTE--As a matter of fact these supplies followed some of these units to the front. It was fortunate, as the Medical Officers in charge would have found themselves short of many essential articles, during the first months of the campaign.

(2) To accompany the force in the field :—

- 1 Pair field panniers.
- 1 Medical Companion } or surgical saddle-bag for mounted units.
- 1 Surgical Haversack }
- 2 Water bottles.
- 4 Field stretchers.

10. When at the Cape you will requisition the acting Quartermaster of the unit for 1 general service wagon or cart, 2 draught horses, with set of suitable harness, for the conveyance of the field medical equipment, stretchers, &c., required for the field.

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11. Your field medical panniers, &c., will be replenished on applying for the same to the nearest depot of medical stores.

12. You will forward to the Director General of the Medical Services, Ottawa, a monthly report of all casualties occurring among the force in your medical charge, together with such other observations as you may think desirable.

I have the honour to be, sir,

Your obedient servant,

J. L. H. NEILSON,

Lt.-Col., D.G.M.S.

APPENDIX D.

GENERAL REPORT ON CAMP DESERONTO, BY LIEUT.-COLONEL
STONE, CAMP COMMANDANT.

1. The Artillery Camp at Deseronto was formed on May 30, 1900, in accordance with M. O. No. 114, of May 18, and came to a conclusion on July 14.

The dates of joining of Staff Officers and units, and all matters relating to training, are dealt with in Part II of the Report.

CAMP SITE.

2. The camp site was hired at a rental of \$20, and was thoroughly satisfactory, shelter being obtainable under the trees for sick horses, which protected them from sun and wind.

There is plenty of suitable land for camping, the best sites being marked in order of merit Nos. I, II, III and IV respectively.

SOIL.

The soil is remarkably well drained, and there is an entire absence of mud, even after heavy rain.

TENT PEGS.

Owing, however, to the presence of limestone rock immediately below the surface, it was necessary to supplement wooden picketing posts and tent and heel pegs, by iron posts and pegs, which could easily be driven into the rotten and partially disintegrated rock.

Provision was made beforehand for this by obtaining from the Artillery Workshop, at Quebec, 500 tent and heel pegs, and 400 picketing pegs of iron: this number proved sufficient for five Batteries, and may be taken as a fair sample on which to base future estimates of requirements.

WATER.

3. Drinking water was obtained by contract from the Town Waterworks, the contractor supplying barrels and keeping them filled twice a day. The water was presumed to be of good quality, but I have since ascertained from Dr. Newton, at Deseronto that the sources of supply are contaminated, and that there is a good deal of sickness in Deseronto, directly attributable to the presence of sewage in the water.

There are plenty of springs in the immediate vicinity of the camp, and a good supply of pure water could be obtained at small expense by sinking wells and erecting a windmill to pump and distribute the water.

The facilities for watering horses are unusually good, the Bay of Quinté, which adjoins the camp site, having a gently shelving beach suitable for the purpose.

The bathing is excellent and was much appreciated.

4. The facilities at Deseronto for transport are excellent, as there are good steamship lines plying to this port, and the terminus of the Deseronto branch of the Bay of Quinté Railway is at the same dock as the steamboats arrive at and depart from. The dock is two miles from the camp site.

The Grand Trunk Railway passes through Deseronto Junction, between which place and Deseronto, the branch line of the Bay of Quinté Railway plies.

WEATHER.

5. The weather was very favourable throughout the camp; there is very little rain or cold in the locality after June 1.

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HEALTH.

6. The general health was good, but there were rather a large number of mild cases of sickness under treatment, possibly attributable to the water. The detailed statement of the cases is given in appendix (c).

MEDICAL ARRANGEMENTS.

7. The medical arrangements were inadequate, only one medical officer being in camp after June 14, although there were four batteries until the end of June to be attended to. I consider that with four Batteries there should be two medical officers at least, and with anything over that number there should be three. It was impossible for the one medical officer to be present at every gun practice, to be with both sides at a tactical field day, and to attend to the sick in camp. Moreover, at an Artillery camp there are always more accidents requiring immediate attention, and more chance of serious accidents than at Cavalry or Infantry camps. There was not even a competent hospital assistant.

DISCIPLINE.

8 The discipline in camp and in the town was satisfactorily maintained. The artillery has made a good name for itself in Deseronto, and the establishment of a permanent camp here is popular with all classes.

STAFF.

9. I wish to draw special attention to the excellent work performed by the camp staff. Where all were zealous and competent, it would be invidious to mention individuals; but it is most gratifying and encouraging to find that the reserve and unattached lists can be drawn upon for staff officers with the successful results which have attended this camp.

LOCAL CONTRACTS (SPECIAL).

11. The following contracts were entered into specially, not being included in the ordinary contracts for supplies, &c. :—

Service.	Name.	Amount.	Authority.
Hire of camp site ...	T. Powlis	\$20	Provisional lease accepted for one year by Deputy Minister.
Housing camp stores, targets, &c.	Powlis (ferry horse.)	\$5	A.G.O. 92,011.
Destroying unexploded shell.	P. Bardy	\$1 per shell found and destroyed; 50c. per shell found by other persons and destroyed by P. Bardy.	Regulations for recovery of projectiles issued with Gen. Order and A.G.O. 90,718.
Hire of room for case of measles.	Miss Hill	\$2 per week.....	A.G.O. 91,394.
Telephone	North American Telegraph Co.	\$30	A.G.O. 90,950.

CAMP AND BARRACK STORES.

12. It is hoped that a proper schedule of these articles may be drawn up as an authority for future issue. The Store Department issued one wheelbarrow and one rake per Battery to keep the horse lines clean, instead of fourteen wheelbarrows and twenty rakes requisitioned for. The absurdity of trying to keep horse lines clean with one wheelbarrow and one rake must be obvious to any thinking individual when it is remembered that the manure has to be wheeled 200 yards to the rear of the lines, so as to be well clear of cooking lines, mess tents, &c. I think the following scale would be suitable as a basis :—

Articles.	Proportion,
Wheelbarrows	3 per Battery.
Rakes, iron	6 "
Brooms, bass	6 "
Forks, stable, 4-prong	3 "

In every Cavalry or Artillery Camp there should be, if possible, a manure wagon. Such a wagon can be detailed for regular rounds to the horse lines of each unit three times a day, thus saving much labour and waste of time in wheeling manure long distances in wheelbarrows. The time thus wasted can be more profitably spent in cleaning harness.

TENTS.

The allowance of tents which the Store Department proposed to issue was quite inadequate to the requirements. These camps are standing camps for purposes of instruction and should be made decent and comfortable if we wish to keep decent and respectable men in the militia. Everyone is willing to put up with the necessary hardships and discomforts of active service, but no good object is served by playing at it in peace time. Active service entails deterioration in the health of the men, as well as in the efficiency of the harness and equipment; unnecessary wear and tear in peace time is to be deprecated.

F. G. STONE, Lt.-Colonel,
Camp Commandant.

DESERONTO, 14-7-1900.

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APPENDIX E.

REPORT OF THE COMMANDANT OF THE ROYAL MILITARY COLLEGE.

To the General Officer Commanding the Canadian Militia, President of the Royal Military College of Canada.

KINGSTON, ONT. October 31, 1900.

SIR,—I have the honour to now forward you my Report on the Royal Military College from the date of my last report, 24th November, 1899, to the date of my resignation of the command, October 31, 1900.

STRENGTH.

1. At the commencement of the Term 1899-1900 there were in residence at the College 87 cadets :—Of these 14 graduated during the period covered by this report; 21 received Imperial Commissions without graduating; 4 were withdrawn by desire of their parents; 5 failed to qualify and were removed in consequence, and two were discharged as medically unfit. Total left the College from all causes 46, leaving 41 cadets to rejoin. A new class of 35 cadets joined with these in September, 1900, making the number 76 at the beginning of the present Term, 1900-01. One of these has since been withdrawn, leaving the total strength to date, 75 cadets.

CONDUCT.

2. I am able to report that the conduct of the cadets has been satisfactory except in one particular. I regret extremely to observe how prevalent the dishonest habit of cribbing and cheating in the examinations has become. On no less than five different occasions have charges of this nature been proved against the cadets, and in many other instances it has been more than suspected, but owing to want of certain proof, charges were not preferred.

In other respects I am fairly satisfied with the discipline which has been maintained by the cadet N.C. officers.

CHANGES IN STAFF.

3. I wish to bring to your notice my high appreciation of the services of Lt.-Col. McGill who retired from the Staff Adjutancy of the College on August 31 last. He has faithfully served the College in the above capacity for the last 17 years.

EXAMINATIONS.

4. The Midsummer examinations have not been as satisfactory as in former years, but it must be taken into consideration that in both the first and second classes many of the most able cadets did not take part, having already been recommended for commissions.

STAFF COURSE.

5. The second "Staff Course" for the training of officers of the Canadian Militia in the higher functions and responsibilities of the General Staff of an army, was commenced on February 1, 1900, but was discontinued on the 17th of the same month, by orders from Head-Quarters, owing to some of the officers forming the Course having been ordered to South Africa, and others to return to their military duties.

SURVEY PARTY.

6. During the Midsummer vacation, a party of nine graduates and cadets and Sergeant Brown, R.E., of the R.M.C. Staff, under the superintendence of Major H. S. Logan, Leicestershire Regiment, were engaged on the Reconnaissance Survey in the neighbourhood of Magog, Que., and about 1,500 miles were added to the work already done.

VISIT TO MCGILL UNIVERSITY.

7. The senior class were again invited to visit the McGill University workshops, through the kindness of the Dean, and many interesting tests of materials were made before them.

NEW BUILDINGS AND REPAIRS.

8. Although the cost of a new drill shed and hospital were included in the estimates for 1900-1901, nothing has yet been done in this direction, and the consequence is that our space for drill is very limited, and the hospital accommodation very unsuitable. A new floor to the gymnasium is urgently required, the present one being very old and uneven.

An extension to the Dormitory building has been approved, and will be carried out in the spring of next year.

DRILL, &C.

9. The drill and gymnastic instructions at the College has been kept up to a high standard.

A good deal of time has been devoted to rifle shooting, and the individual standard of the cadets in this respect is very fair.

MILITIA CAMPS.

10. Twenty-nine cadets availed themselves of the privilege, under paragraph 73, R. M. C. Regulations, of being attached to the Canadian Militia at the Camps of Instruction.

COMMISSIONS.

11. During the year the following cadets obtained commissions in the Imperial Army :—

2nd Lieutenants, Royal Field Artillery, March, 1900 : C. W. W. McLean, R. C. Keith, A. G. Piddington and R. W. S. Burrill.

2nd Lieutenants, Army Service Corps, March, 1900 : V. D. Denison, H. G. Reid, R. Simpson and G. C. Milson.

2nd Lieutenants, Royal Field Artillery, May, 1900 : G. T. Hamilton, T. Kirkland, H. S. Stewart and A. Z. Palmer.

2nd Lieutenants, Royal Engineers, June, 1900 : E. C. Baker, F. H. W. Archibald, and G. B. Johnson.

2nd Lieutenants, Army Service Corps, July, 1900 : O. B. R. Dickey, M. L. B. H. Lambert, H. A. H. Oliver, J. H. Fessenden and F. W. B. Ridout.

2nd Lieutenants, Infantry of the Line : R. J. McLaren, (West Yorkshire Regt.) and F. P. Myles, (Leicester Regt.)

2nd Lieutenant Royal Field Artillery, Oct., 1900 : J. K. C. Magee, (then serving with Special Service Bn Can. Contingent in the field).

DIPLOMAS OF GRADUATION.

12. Diplomas of graduation have been awarded to the following gentlemen of the 1st Class, the five first-named being with "Honours" :—

W. R. McConkey, E. C. Baker, G. B. Johnson, J. W. Rolston, T. V. Anderson, E. H. Pense, B. C. Caldwell, F. E. Patterson, W. B. Lindsay, H. E. Low, T. H. Byrne, H. L. Bucke, J. A. Riddell and W. Harty.

PRIZES, &C.

13. The college prizes have been awarded as follows :—

Governor General's Medals for the highest aggregation of marks during the entire course : W. R. McConkey, gold medal ; E. C. Baker, silver medal ; and G. B. Johnson, bronze medal.

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Class prizes, for the highest number of marks in each class : W. R. McConkey, 1st Class prize ; G. B. Hughes, 2nd Class ; and D. K. Edgar, the 3rd Class prize.

Subject prizes, for the highest marks in the several subjects : W. R. McConkey, (for subjects finished in the 1st Class) received the prizes for Military Engineering, Military Surveying and Reconnaissance, Civil Surveying, Chemistry and Physics, Civil Engineering and Drills and Exercises.

B. A. C. Caldwell and T. V. Anderson were equal for the " Conduct " prize.

For subjects finished in the 2nd Class ; G. B. Hughes received the prizes for Mathematics, Geometrical Drawing, Artillery, Tactics, French and English.

The Rifle Shooting Prize (for best rifle shot in the League Matches) went to Cadet Cameron ; and the Revolver Shooting Prize to Cadet Gibbons.

Dominion Artillery Association Prizes : W. R. McConkey, won the 1st Class Prize and G. B. Hughes, the 2nd Class prize.

I have the honour to be, sir,

Your obedient servant,

G. C. KITSON, Colonel,

Commandant R.M. College.

APPENDIX F(1.)

RETURN showing the number of Officers, N.C. Officers, Men and Horses, trained during the Year 1900 in District Camps.

MILITARY DISTRICT.	AUTHORIZED ESTABLISHMENT CALLED OUT.			RECEIVED 12 DAYS' TRAINING.			RECEIVED UNDER 12 DAYS' TRAINING.			UNTRAINED.		
	Officers.	N.C. Officers and Men.	Horses.	Officers.	N.C. Officers and Men.	Horses.	Officers.	N.C. Officers and Men.	Horses.	Officers.	N.C. Officers and Men.	Horses.
No. 1	300	3,211	345	209	2,727	310				91	484	35
No. 2	355	3,814	607	288	3,431	566	8	44	1	59	339	40
No. 3 and 4	267	2,720	444	188	2,160	377				79	560	67
No. 5	206	2,094	233	166	1,454	188		7		40	633	45
No. 6	135	1,391	272	103	817	236		7		32	567	36
No. 7	205	2,163	78	138	1,287	66				67	876	12
No. 8	160	1,794	439	113	1,415	351				47	379	88
No. 9	212	2,380	104	175	1,954	101	3	36		34	390	3
No. 10	6	79	80	6	79	80						
No. 12	43	442	4	34	390	4	2	26		7	26	
Total	1,889	20,088	2,606	1,420	15,714	2,279	13	120	1	456	4,254	326

SESSIONAL PAPER No. 35

RETURN showing the number of Officers, N.C. Officers, Men and Horses trained during the Year 1900 at Local Headquarters.

MILITARY DISTRICTS.	AUTHORIZED ESTABLISHMENT CALLED OUT.			RECEIVED 12 DAYS' TRAINING.			RECEIVED UNDER 12 DAYS' TRAINING.			UNTRAINED.		
	Officers.	N. C. Officers and Men.	Horses.	Officers.	N. C. Officers and Men.	Horses.	Officers.	N. C. Officers and Men.	Horses.	Officers.	N. C. Officers and Men.	Horses.
No. 1.....	43	422	7	38	421	7	.....	.....	.....	5	1	.....
No. 2.....	179	1,932	23	130	1,899	22	49	33	1	.....	.....	.....
No. 3)	105	1,103	16	81	978	14	.....	.....	.....	24	125	2
No. 4)												
No. 5.....	147	1,914	147	129	1,862	138	.....	1	.....	18	51	9
No. 6.....	36	387	6	28	336	6	.....	.....	.....	8	51	.....
No. 7.....	89	985	88	66	908	80	.....	.....	.....	23	77	8
No. 8.....	49	592	4	44	541	4	.....	7	.....	5	44	.....
No. 9.....	85	1,283	8	76	1,005	8	4	181	.....	5	97	.....
No. 10.....	34	389	54	28	382	50	.....	1	.....	6	6	4
No. 11.....	64	870	.....	45	733	.....	1	101	.....	18	36	.....
No. 12.....	12	220	.....	7	183	.....	.....	10	.....	5	27	.....
Total	843	10,097	353	672	9,248	329	54	334	1	117	515	23

SUMMARY.

District Camps	1,889	20,088	2,606	1,420	15,714	2,279	13	120	1	456	4,254	326
Local Head-Quarters..	843	10,097	353	672	9,248	329	54	334	1	117	515	23
Total	2,732	30,185	2,959	2,092	24,962	2,608	67	454	2	573	4,769	349

Total Regimental Establishment of Active Militia, Officers, N.C. Officers and Men, on December 31, 1899.....	35,686
Total Regimental Establishment of Active Militia, Officers, N.C. Officers and Men of Corps ordered to drill during 1900.....	32,917
Total Officers, N.C. Officers and Men of Active Militia, trained or partly trained during 1900.....	27,575

M. AYLMER, Colonel,
Adjutant General.

APPENDIX F(2.)

List of Certificates issued to Officers, Non-Commissioned Officers and Men of the Active Militia during the Year ending Dec. 31, 1900.

Arm and Station.	Long Course.			Short Course.			Special Course.			Musketry Course.			Field Officers.		Cap-tains.		Sub-alterns.		Drill Serjts.		N.C.O.			Trumpeters.			Total.					
	A. B.			A. B.			A. B.			A. B.			A. B.		A. B.		A. B.		A. B.		A. B.			A. B.								
	1st.	2nd.	3rd.	1st.	2nd.	3rd.	1st.	2nd.	3rd.	1st.	2nd.	3rd.	1st.	2nd.	1st.	2nd.	1st.	2nd.	1st.	2nd.	1st.	2nd.	3rd.	1st.	2nd.	3rd.						
Cavalry—Toronto				4			3	7	3	1						2	2		3	1		1			6			66				
" Winnipeg																4			3	2		1			10			36				
Artillery—Kingston				6			1	4	1										1						4			35				
" Quebec				4			1	3	2	10									1						3			21				
" Victoria, B.C. (Prov. School).																												10				
Infantry—London													6	9	32	9	5	5								28	1		95			
" Toronto	3	1										3	12	11	10	5	6	19	2						33			100				
" St. John's, Que													2	5	3	12	6	28							13			48				
" Fredericton														5	12			7							27			32				
" Quebec												1				12		7										20				
Total	3	1	1	14	1	6	10	19	4	3	3	1	11	28	66	47	26	73	9			3	1	1	2	122	2	47	3	1	2	503

M. AYLMER, Colonel,
Adjutant General.

APPENDIX F(3.)

ANNUAL RETURN of Permanent Corps of Active Militia (Non-Commissioned Officers and Men) for the Year ending June 30, 1900.

NAME OF CORPS.	Authorized Establishment.		Strength on Dec. 31, 1899.		Strength on Dec. 31, 1900.		BECOME NON-EFFECTIVE.										ENROLLED.				Composition pre- sent Contingent as to length of service.	Serving with Pension from Imperial Government.					
							Discharged by Purchase.	Discharged Un- suitable.	Discharged Inva- lided.	Discharged—Time expired.	Deserted.	Died.	Transferred.	Total.	Enlisted.	Re-enlisted.	Transferred.	Returned from desertion.	Total.	Under 1 Year.			2 to 3 Years.		Over 3 Years.		
																				1 to 2 Years.			2 to 3 Years.	Over 3 Years.			
"A" Squadron, Royal Canadian Dragoons	73	69	57	9	6	1	9	1	1	1	32	...	52	101	73	1	13	2	89	40	5	...	12	1			
"B" " "	76	74	41	6	4	1	6	1	1	3	7	1	47	69	32	4	...	...	36	32	2	...	5	...	
"A" Field Battery, Royal Canadian Artillery	154	97	105	5	2	...	5	...	...	7	40	...	63	117	76	...	41	8	125	55	15	7	28	...	
Garrison Division	198	153	133	6	...	...	6	1	...	16	11	1	26	61	38	...	3	...	41	27	16	10	80	...	
No. 1 Company Royal Canadian Regiment of Infantry	79	81	83	4	3	1	4	1	1	9	14	2	6	39	35	2	3	1	41	29	13	7	34	...			
" 2 " " "	83	80	85	9	3	...	9	1	1	3	13	3	23	55	48	1	4	7	60	28	14	14	29	...			
" 3 " " "	62	69	66	4	5	...	4	1	1	10	11	1	13	45	32	4	3	3	42	23	7	11	23	...			
" 4 " " "	68	72	73	2	1	4	2	3	3	4	13	...	7	30	28	...	2	1	31	37	5	5	26	...			
" 5 " " "	80	53	53	1	2	2	1	7	7	2	19	1	3	35	8	1	22	4	35	6	23	5	19	...			
Total	873	748	696	46	26	16	55	16	55	160	9	240	552	370	13	91	26	500	277	100	61	258	1	...			

M. AYLMER, Colonel,
Adjutant General.

APPENDIX F(4.)

RETURN of Gun Ammunition expended by Field Batteries, Canadian Artillery, at Preliminary, Service, and Competitive Practice during the Year 1900, showing type of Gun used.

FIELD BATTERY.	TYPE OF GUN.					Station.	
	B.L., 12-pr., 6 cwt.		R.M.L., 9-pr., 8 cwt.				
	Shell, Shrapnel.	Shot, Case.	Shells.		Shot, Case.		
			Common.	Shrapnel.			
"A," R.C.A.	102	14	} Camp, Deser- onto.	
2nd Brigade Division { 4th Hamilton.....	152	6	.....	.....	.....
	143	28	.....	.....	.....
	9th Toronto	129	18
2nd Ottawa.....	154	32		} At Local Head- Quarters.
5th Kingston	110	16	.....	.....	.....
8th Gananoque.....	134	30	.....	.....	.....
14th Durham.....	.....	.....	41	68	24
1st Quebec.....	40	.....	.....	.....	.....
3rd Montreal	40	.....	.....	.....	.....
13th Winnipeg.....	12	24	}	
15th Shefford.....	.....	.....	6	17	.....	
Total	1,004	144	59	109	24		

The 6th, 10th, 11th, 12th and 16th Field Batteries did not practice.

W. H. COTTON, Colonel,
A.A.G A.

APPENDIX F(5.)

RETURN of Garrison Regiments and Companies, Canadian Artillery, which performed Annual Drill during the Year 1900, showing type of Gun used, Ammunition expended, &c.

GARRISON ARTILLERY.	TYPE OF GUN.				Station at which Gun Practice was carried out.
	R. M. L.	R. B. L.			
	9-inch.	40-pr.			
	Shot, Palliser.	Shells.		Shot, Case.	
Common.		Segment.			
R.C.A., Garrison Artillery		23	43	4	Isle of Orleans.
1st Regiment C.A. { 1st Division...	64				Halifax, York Redoubt.
{ 2nd " ...	32				" "
2nd " 		14	25	6	Isle of Orleans.
3rd " 		23	39	8	St. John, N.B.
4th " 		32	48	8	Charlottetown, P.E.I.
6th " 		21	23	4	Isle of Orleans.
Cobourg Company		8	4	4	"
Total	96	121	182	34	

W. H. COTTON, Colonel,
A.A.G.A.

APPENDIX G.

REPORT ON 2ND DIVISION, 1ST REGIMENT, CANADIAN ARTILLERY.

There were 70 recruits out of a total of about 140 officers, N.C. officers and men. These recruits did not even know squad drill, and, consequently, the difficulty of teaching them gun drill was increased. If possible they should learn squad drill before coming up for the training. The officers had most of them been up for a training before, and in comparison with the N.C.O. and men were more advanced in the knowledge of their duties.

One or two companies had special clothing for gun drill. It would be an advantage if all were served out with this, and so save their best clothing, which soon gets damaged at work.

A few more instructors (one for every twenty N.C.O. and men) from N.C.O. of the Royal Artillery would be an advantage at the beginning of the training. Their services could be dispensed with after the first five working days. One night was given to night-manning, and was very instructive to all ranks. The fire discipline was very good.

It would be a very great advantage for all ranks if a tug could be hired for two or three days at the end of the training for the purpose of towing a target for laying on. Also, if practice could be obtained from a few rounds of Morris Tube ammunition. It is cheap and practices the Battery commanders in ranging, and also gives confidence to the gun-layers in firing.

Specialists were chosen for the Depression Range Finder and were trained. These men soon learnt the instrument and did excellent work.

C. PHILLIPS, Capt. R.A.,
I.G.B.N.A.

PART II.

REPORT OF THE MAJOR GENERAL COMMANDING.

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